



AND THE MILLING ENGINEER.

Fourteenth Year.—No. 12.

MILWAUKEE, DECEMBER, 1889.

Subscription Price, \$1.00 Per Year.

STILWELL & BIERCE MFG. CO.

—* DAYTON, OHIO, U. S. A. *

MILLING • ENGINEERS

Manufacturers of the Celebrated ODELL ROLLER MILLS and a full line of

Flour & Corn Mill Machinery.

MILLS BUILT ON THE

* ODELL SYSTEM. *

* Contracts taken for mills of any size, large or small, and results GUARANTEED. *

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FOR 1890-'91

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OUR PROMINENCE with PROGRESSIVE MILLERS

Is Due Entirely to the Excellence of the

GRAIN CLEANING MACHINERY

—AND—

BRAN • DUSTERS

Which We Have Provided.

DO NOT BE CAJOLED into Buying Inferior Machinery, because the

"Price is within the Reach of All." It is Expensive at Any Price.

TRUE MERIT is Embodied in the

* RICHMOND *

Grain • Cleaning • Machinery

—AND—

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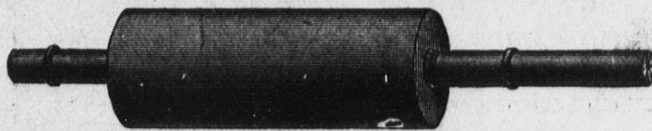
RICHMOND MANUFACTURING CO.

LOCKPORT, N. Y., U. S. A.

Farrel Foundry & Machine Company,

ANSONIA, CONN.,

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ANSONIA ROLLS
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These Rolls are now used in all Leading Flouring Mills

Chilled Rolls for Paper Mills a Specialty.

Mention this paper when you write to us.

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Fort Wayne, Indiana.

—MANUFACTURERS OF—

First Class Steam Boilers,

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Locomotive, Upright,

Flued and Tubular

—AND—

Portable Boilers of all Sizes and Styles.

TWO SHEET BOILERS A SPECIALTY.

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ESTABLISHED 1846.
J. B. A. KERN & SON,
Merchant Millers,

Capacity 2,000 Barrels Per Day.

MILWAUKEE, WIS.

Manufacturers of Choice Minnesota and Dakota Hard Wheat Flour.

* RYE • FLOUR *

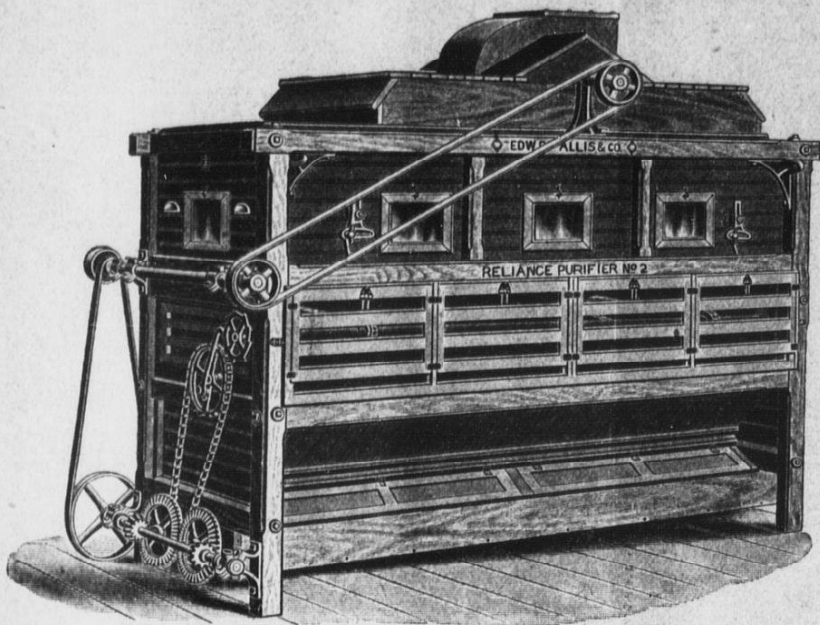
By most approved roller process, guaranteed the best and purest rye flour manufactured
WE INVITE CORRESPONDENCE FROM CASH BUYERS.



EDW. P. ALLIS & CO.

Mill Builders and Mill Furnishers,

RELIANCE WORKS, - - MILWAUKEE, WIS.



SOLE MANUFACTURERS OF

... THE ...

Reliance

Purifier.

IMPORTANT NOTICE.

The Principal Features of the RELIANCE PURIFIERS are covered by our own patents, but to afford the fullest protection to our customers we have made arrangements by which it is now Licensed under all the patents of the

CONSOLIDATED MIDDINGS PURIFIER CO.

This puts it out of the power of Anybody to trouble its purchasers, and backed by the acknowledged excellence of the machine itself, makes it to the interest of every Miller who wants The Best to purchase the RELIANCE.

THE RELIANCE PURIFIER

Has been on the market but a short time, but has become a recognized necessity in the best mills, and is used by the Staten Island Mill, New York City, 1,500 bbls; the Imperial Mill, Duluth Minn., 2,000 bbls.; the Listman Mill Co., La Crosse, Wis., 1,000 bbls.; the C. C. Washburn Flouring Mills, Minneapolis, and hundreds of others.

INDISPUTABLE EVIDENCE.

Office of LISTMAN MILL COMPANY.

E. P. ALLIS & CO., Milwaukee.

LA CROSSE, WIS., Nov. 20, 1889.

Gentlemen: We are pleased to state in accepting our mill built by you, after taking ample time to test the same and judging from reports we have had from our flour, we are convinced you have built us as good a mill as there is in America.

Your Gray Roller Mills, Flour Dressers, Centrifugal Reels, Scalpers and Reliance Purifiers give the best of satisfaction, and after ten years of experience in using this class of machinery we are free to say there is no better made.

Wishing you continued success, we remain

Yours truly,

LISTMAN MILL CO.,

Capacity 1000 Barrels.

Wm. Listman, Manager.

MESSRS. E. P. ALLIS & CO. Milwaukee, Wis.

OMAHA, NEB., June 7, 1889.

Gentlemen: We have been running the Purifiers long enough to justify us in saying that the Reliance Purifiers are the most economical and perfect Purifiers on the market. The absence of inside oil boxes is especially worthy of millers' notice in buying Purifiers. There seems to be every adjustment necessary on the Reliance for the perfect purification of middlings, and all adjustments are simple, durable and easy of access. All of our millers say that the Reliance Purifiers are far superior to any Purifiers that they have run.

OMAHA MILLING CO.,

G. E. Russell, Manager.



EDW. P. ALLIS & CO.

Mill Builders and Mill Furnishers,

RELIANCE WORKS, - - MILWAUKEE, WIS.



The United States MILLER

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THE LINCOLN ROLLER MILLS.

THE engraving below represents what is now without doubt one of the best mills in Illinois. The mill was first erected three or four years ago as a 150 bbl. mill by one of the leading mill furnishers, whose expert miller, Mr. M. J. Gordon, resigned his position and became the manager of the new mill. Finding in 1888 that in order to keep up with the times and give them more capacity additional machinery was necessary, the owners placed the mill in the hands of Edw. P. Allis & Co., with instructions to make it a first-class mill of 300 bbls. capacity. Pursuant to these instructions a new outfit of 150 bbls. cap-

same. The grades of flour and clean-up are all that we could ask. The break rolls have to be seen to be appreciated. We heartily recommend any and all parties wishing to remodel or to build new mills to use your system and line of machines.

MIXING FLOURS.

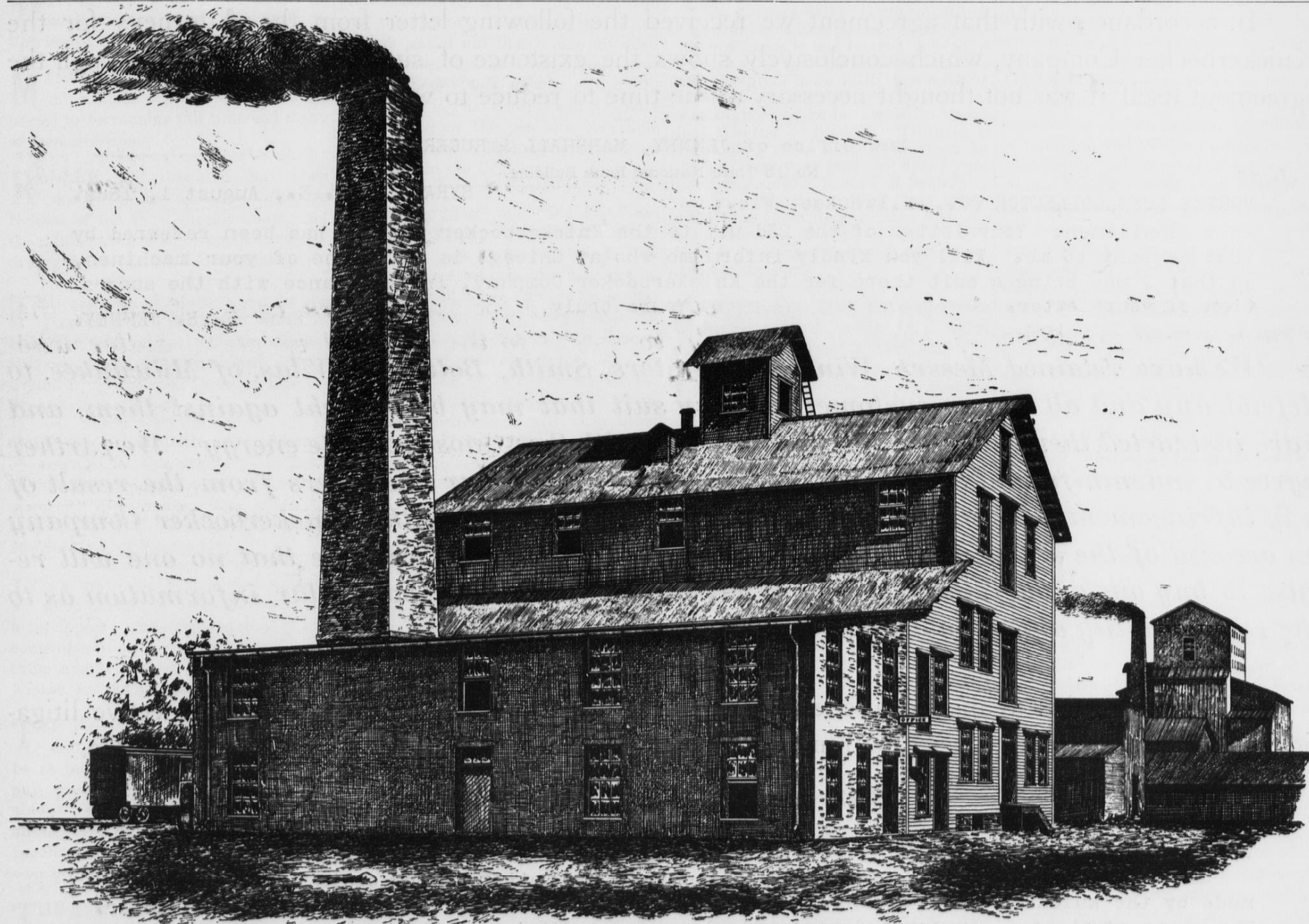
Some Practical Hints on the Subject.

VERY rarely does a flour come just right in to the hands of a baker, it is either better than it need be or it is inferior. To use a flour that is already mixed for the baker allows no leeway in the matter of benefits of com-

recognized necessity in any well-regulated bakery; for it follows that unless the mixing is systematically carried out, no distinction can be maintained as to variety, and to the perfect uniformity of the bread product from day to day. To turn out something short of what is actually attainable from any given flour mixture is equivalent to sheer waste. Thoroughly sifted flour absorbs and assimilates water the more readily, rendering the product better because of this, besides being more profitable. It is imperatively necessary that the thorough mixing of the flour be done before it is any wise moistened, as no dough mixing can fully accomplish it so well. The assurance that the flour is

that shall be of a practical and an economic benefit, is one of the necessities of the times.—*British Confectioner, (London.)*

THE standard mill shaft in Lancashire, England has enlarged ends for the couplings, these ends being so large that the keyways are not cut so deep as to reach the body of the shaft. The ends are got out, roughed and welded to the ends of a length of shafting, which is afterwards turned up. The enlarged ends demand the use of split pulleys, which is probably a good thing. But these ends multiply the cost of the shafting. If split pulleys were used, thereby avoiding the necessity for removing couplings, it ap-



LINCOLN ROLLER MILLS, LINCOLN, ILL., BUILT BY E. P. ALLIS & CO.

acity was put in beside of the old one, and the whole was connected together as a 300 bbl. mill, arranged upon the Allis system. The new part contains a complete line of Allis & Co.'s latest machines, including Gray's Roller Mills, Flour Dressers, Centrifugal Reels and Reliance Purifiers. The mill has an established trade to take its products and having a superior equipment, efficient management and abundant capital, its success would seem to be assured. What the owners think of this mill is expressed in the following extract from a letter to Messrs. Allis & Co.:

"The mill you have just remodeled for us is now running and giving entire satisfaction, and we willingly accept the

petition. Some milling sections afford peculiar facilities for making given styles of flour, but the miller who affords the perfect blend of flour that shall suit the peculiar idea of the individual baker, is not yet known; besides, a baker's flour mixture is governed, or should be governed, entirely by the quality of product made by his competitors, which varies from time to time. It is proved in many large bakeries that the ordinary help cannot be trusted at all times to mix and blend various flours by hand. It is much easier and far more natural to the ordinary help to half perform this task. When the design is to use a variety of flour mixtures with a view of manufacturing a variety of products, a machine mixer is a

well and thoroughly mixed to certain and known requirements, permits of better and closer gauging in the rising of the sponges. The importance of this last cannot be over-estimated. Oftentimes a certain kind of flour can be purchased at a comparatively low price, and, to be profitable, it needs to be certainly and well mixed with a flour of another kind, and which other kind may be likewise profitably cheap; but unless one can count on the purchase being well mixed, the advantage possible in such opportunities cannot be utilised. No thoughtful considerate baker will ignore flour mixing, and especially now that competition in the baking business is most rife. To be well fortified with proper equipments

pears as if they could be put on shafts without enlarged ends, so that there would be no danger of a failure to hold.

This is only an outside view of the matter; if Lancashire mill owners prefer to pay the cost of enlarged ends, it is their own business.—*Am. Machinist.*

"As regards home-made bread, there is no stronger reason why people should not make it at home than that they should not make their own dresses, their coats, their boots and shoes, and sundry other things at home; but experience has taught the generality of mankind that those who devote their whole time to a special industry become experts; therefore we have tradesmen, including the baker."

Vortex Dust Collector Co.

To Our Customers and the Public!

In response to the comments and statements made by the Knickerbocker Co., of Jackson, Mich., we are compelled in self-defense to make this reply:

It is true that at a meeting in Chicago between our Mr. Ferdinand Schlesinger, president of the Vortex Dust Collector Co., and Mr. Knickerbocker, the president of the Knickerbocker Co., it was agreed that an amicable suit should be conducted for the purpose of determining the validity of the Knickerbocker Company's claim; and that we should permit a customer of ours to be sued in the Northern District of Illinois for the purpose of determining that question. It was further agreed that until the determination of that suit, our customers and our trade should not be annoyed by any threats or other action on the part of the Knickerbocker Company.

In accordance with that agreement we received the following letter from the Attorneys for the Knickerbocker Company, which conclusively shows the existence of such an agreement, although the agreement itself it was not thought necessary at the time to reduce to writing:

Law Office of JENNEY, MARSHALL & RUGER,
No. 15 Third National Bank Building.

VORTEX DUST COLLECTOR CO., Milwaukee, Wis.:

SYRACUSE, N. Y., August 1, 1889.

Gentlemen: Your letter of the 23d ult to the Knickerbocker Company has been referred by that company to me. Will you kindly inform me who at Chicago is using one of your machines, so that I may bring a suit there for the Knickerbocker Company, in accordance with the suggestion of your letter.

Yours truly,

E. S. JENNEY.

We have retained Messrs. Winkler, Flanders, Smith, Bottum & Vilas, of Milwaukee, to defend any and all of our customers in any suit that may be brought against them, and have instructed them to defend all such actions with the utmost possible energy. We further agree to indemnify and save and keep harmless any of our customers from the result of any infringement suit, or any other suit whatever, brought by the Knickerbocker Company on account of the use of any machine made or sold by us, and we hope that no one will refuse to buy one of our machines before writing us and getting particular information as to the responsibility and reliability of such guaranty.

We desire further to append a letter received from our attorneys in regard to the prospective litigation, and we consider ourselves safe from any ultimate loss at the hands of the Knickerbocker Co.:

F. C. WINKLER,
J. G. FLANDERS,
A. A. L. SMITH,
E. H. BOTTUM,
E. P. VILAS.

WINKLER, FLANDERS, SMITH, BOTTUM & VILAS,
Counselors at Law.

VORTEX DUST COLLECTOR CO., City.

Gentlemen: We have at your request looked into the matter of the claim of infringement made by the Knickerbocker Company, based upon the manufacture of your Vortex Dust Collector. The state of the art, in our judgment, discloses no sufficient foundation for the claims of the Knickerbocker Company.

We believe that an absolutely impregnable defense can be made in any action for infringement, based upon the manufacture or use of the Vortex Dust Collector, as made by you.

We acknowledge your instructions to appear and defend any and all of your customers in any action brought against them, and will cheerfully act in accordance with your wishes under your retainer. (Dictated.)

Yours very respectfully,

WINKLER, FLANDERS, SMITH, BOTTUM & VILAS.

Vortex Dust Collector Co., Milwaukee, Wis.

UNITED STATES MILLER
AND THE MILLING ENGINEER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, No. 124 GRAND AVENUE, MILWAUKEE.
SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.
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To Canadian subscribers, postage prepaid..... 1.00
Foreign subscriptions..... 50.
All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.
Bills for advertising will be sent monthly, unless otherwise agreed upon.
For estimates for advertising, address the UNITED STATES MILLER AND THE MILLING ENGINEER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, DECEMBER, 1889.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER AND THE MILLING ENGINEER. You will thereby oblige not only this paper, but the advertisers.

WE send out a number of SAMPLE COPIES of this issue. We solicit a critical examination of our Journal and invite you to subscribe. The price is one dollar per year. No premiums—no discount. Our January number will contain matters of special interest to millers which you will not find elsewhere.

WE wish all our readers a Merry Christmas and a Happy New Year.

THE Alliance Journal is the name of a handsome new agricultural publication issued at Montgomery, Ala.

MANUFACTURING establishments in all sections of the country are reported to be running full time and many of them overtime.

ROLLER mill litigation has been occupying the attention of Judge Nelson, of the U. S. Circuit Court, and the milling trade of Minneapolis generally during the second week in December.

THE republic of Chili, S. A., in one year imported \$2,219,000 worth of tools and machinery. Of this amount \$211,000 worth was purchased in the United States and the balance in Europe. This ought not to be so.

THE Star, Kansas City, Mo., of Dec. 5 contains an able argument in favor of that city as a good location for large merchant flour mills. The article is from the pen of C. F. Hall, editor of the Modern Miller, of Kansas City.

IT is gratifying to note that a handsome margin of peace and contentment appears to reign among most of our contemporaries. None have said anything about Ananias or "The Arizona Kicker, Jr." for at least a month.

THE Fifty-first Congress has convened and the prospects are that there will be as much legislation attempted as at any previous session. Bills covering almost everything imaginable have already been introduced, but it is safe to predict that not one of a hundred will ever become laws.

THE good people of Bartley Neb., have an improved water-power on which they have expended about \$12,000 and they now want some one to build a good flour mill there. The opening is said to be first class. Any one desiring further information should address Bank of Bartley, Bartley, Neb.

IF its members punch up the Millers' National Association, and the Association punches up American Boards of Trade and if they unitedly punch up Congress and Congress punches up the British Parliament, the millers will probably in due course of time get a satisfactory international bill of lading. Gentlemen prepare to punch—PUNCH.

THE Kansas Farmer's Alliance has notified farmers that at present prices corn is cheaper for fuel than coal and have

advised them to burn corn. We remember that some years ago Kansas farmers did burn corn extensively for fuel, but before a year was past they wished they had not, for corn advanced to about 70 cents per bushel, while coal was worth but 25. It is dead wrong to burn food anyhow, no matter how prices run.

THE U. S. MILLER has recently been favored with calls from Hon. Alex. Parker, Spokane Falls, Wash.; H. E. Morgan of the Baltimore Journal of Commerce; F. W. Howell, Buffalo, N. Y.; P. H. Litchfield of the North-western Miller; R. L. Downton of St. Louis; J. H. Russell of Maryland, and a number of others connected with the trade.

THE Richmond Manufacturing Co., of Lockport, N. Y., manufacturers of grain cleaning machinery, recently received a medal and diploma for their exhibit at the Adelaide (Australia) Jubilee International Exhibition. This is an honor not only to the Richmond Mfg. Co., but to American manufacturers. We congratulate the company on their deserved good fortune.

THE London Letter in our November number was, we are informed, quite extensively discussed in Mark Lane and great efforts were made to ascertain who was the author. It appears that some matters leaked out that it was intended should have been kept very quiet. Our London Letter this month, signed "L. Maygrove," is good reading and we desire to say is from the pen of a very able gentleman, who is thoroughly acquainted with trade in the U. K.

THE "Big Four" and "Big Five" are quietly jogging along with their legal battles and both sides and their friends express themselves as feeling sure to win. The courts will have to decide the matter however, instead of the newspapers. Justice will no doubt prevail and be done in the course of human events. In the mean time the millers who are in the National Association will grind on peacefully and await results with their usual serenity for either way the case goes, they are amply protected.

THE Iowa Railroad Commissioners report that they find it difficult to get desired statistics from railroads operating in that state. As Iowa legislation has in the past few years been everything but encouraging to railroads, it is scarcely to be expected that the railroads would go to much expense to satisfy demands of the Commissioners. It is quite evident that a modification of Iowa railroad laws would benefit the people of Iowa as well as the railroads and there is no class of the community that better appreciates this fact than Iowa millers and grain dealers.

A LARGE amount of stock of The Pillsbury-Washburn Flour Mills Co. Limited, still remains on the London market unsubscribed for. For some reason it appears that British investors were not as anxious to subscribe for a flour-mill enterprise as for some other investments. It is reported that one million dollars have been paid to the mill-owners on account.

Prof. Ciprico has favored Milwaukee for some weeks with a good deal of syndicate talk, and has given the reporters of our dailies lots of information (?) with which to astound our fellow-citizens. It is said with probably a grain of truth that the syndicate of which Prof. Ciprico is the unsmotherable mouth-piece has secured options upon some Milwaukee mills. Whether the syndicate and the millers will positively make a deal is a question which time alone will tell. No matter what the result is we will still have the mills; and if our millers sell they will have plenty of capital to build more, of the newest pattern, if they see fit to do so.

AS we go to press the announcement is received that the Pennsylvania Millers' Association has voted to ally itself to the Millers' National Association. The Pennsylvania millers are certainly to be congratulated upon the step they have taken. Their Association has never been connected with the National organization until now. Secretary Barry however has succeeded in showing to them the substantial benefits of membership in the National Association in such a light that they have decided to join in the good work. A member will probably be elected at the next session of the State Association's executive committee to represent them in the executive committee of the National Association. We congratulate Secretary Barry on the success of his efforts to create a closer union between state and national organizations. He appears to be devoting his earnest efforts to this end. Only recently the alliance of the North Dakota Association was announced, followed now by that of the Northern Indiana and Pennsylvania Associations. We trust that the good work will go on in this manner until the millers of the entire country work together in harmony.

WE clip the following sensible observation from the editorial columns of the St. Louis Miller:

"Always speak well of your competitors or else don't mention them. Nothing excites our curiosity and interest in a fellow so much as to hear him abused—and we generally think there must be something in him or else it would be to no one's interest to give him the devil when he wasn't there to speak for himself. Truth is, if you want to make a fellow's fortune for him and lose your own, just spend your time lying on him instead of tending to your own knitting. While you gossip about him you'll drop stitches that will make your own stocking a poor concern when it is finished, and one that won't keep out the storm."

GEO. WILSON, ESQ., the well-known Rochester, N. Y. miller in a recent interview is reported to have said:

"I think it will be a long time before the Englishmen buy the mills of Rochester. The good mills are not for sale at any price they would care to pay; although every one could doubtless be bought if money enough was offered. The poor mills, they do not want at any price. No, it will be a long time before the mills of Rochester pass into the hands of English owners. 'You will notice,' continued Mr. Wilson, 'wherever the Englishmen have bought American properties they have showed a good deal of shrewdness. They select good paying plants. Then they stipulate that the parties they purchase from shall retain a certain interest, and without exception some of the principal men are retained in the management of the business. At present this talk about English syndicates purchasing Rochester mills is all flour dust.'"

Bradstreet's (Dec. 7), after summing up the stocks of Wheat at 1000 points east of the Rocky mountains and its returns from west of the Rocky mountains, concludes by saying:

"So that the total stocks of wheat in the United States, both coasts, on November 30 last were 4,703,882 bushels larger than on a like date one year ago. One month ago the like total was 56,317,796 bushels, as compared with 50,255,007 bushels on November 1, 1888.

Stocks of wheat flour on November 30 last aggregated 1,606,024 barrels, or 60,114 barrels less than on November 2, 1889, but 304,501 barrels less than on December 1, 1888.

Indian corn stocks on November 1 are shown to be 50 per cent. larger than the official report admits, oats stocks 44 per cent. larger, barley stocks 33 per cent. larger, and stocks of rye 25 per cent. larger. Stocks of corn decreased 1,575,406 bushels during November, or 14 per cent., and stocks of oats 3,291,688 bushels, or 26 per cent. Stocks of barley increased 1,395,117 bushels, or 52 per cent., and rye 7,003 bushels, or less than one-half of 1 per cent."

Exports of wheat (and flour as wheat), both coasts, for the current week equal 2,327,342 bushels, as compared with 1,708,732 bushels last week and 1,637,455 bushels for the first week in December, 1888. From July 1 to date total exports (wheat and flour as wheat) have been 44,851,855 bushels, against 47,000,000 bushels in a like portion of 1888 and 68,000,000 bushels in 1887.

THE MILLERS' NATIONAL ASSOCIATION.

WITH a persistence which in a more truthful and innocent cause would be admirable, the milling journal that stands nearest to Secretary Barry is brandishing over the heads of the millers that ancient argument about joining the so called Millers' National Association in order to escape liability to infringement suits. Esteemed contemporary, the whip will neither cut nor crack. Millers cannot be stampeded into joining for protection's sake an association which has in its treasury barely enough money to pay one second rate retainer.—The Roller Mill.

We suppose the above clipping from our contemporary refers to this journal. The Roller Mill errs. We have no desire whatever to drive any miller into the Association, even if we could. An unwilling member would be more of a drawback than a benefit.

We believe it to be advantageous for millers to join the Association voluntarily for their business interests. Patent matters are only one feature, but in that they can defend or compromise infringement suits on the co-operative plan at a trifling expense to each member. A committee at little cost can look after transportation matters and generally secure concessions that will benefit the whole trade. Another committee can look after legislative matters in Congress or State legislatures and secure the passage, amendment or repeal of laws affecting the trade, that no individual miller could secure, no matter how great his prominence. Matters of vital importance to exporting millers, such as a proper bill of lading, can only be attended to and secured by representatives of an organized body such as the Millers' National Association. The same may be said of other matters affecting our export trade to be brought before the Government departments or before foreign commercial bodies. Annual conventions, devoted partly to business and partly to social intercourse are beneficial for one reason if no other. Millers from different sections of the country become acquainted and quietly talk over any matters which interest them.

We believe that every miller in this country for his own good ought to become a member of the Association—(it costs but little) and we believe if our contemporary would take the trouble to visit or write to Secretary Barry, that he would learn that the Association is by no means as weak in numbers or representative capacity as he evidently thinks it is, and that it will compare favorably with similar organizations in other industries. As a matter of fact, to-day the aggregate capacity of the mills holding membership in the National Association is larger than at any time since its organization. As an evidence of the healthy growth of the Association, it is a fact that more than thirty per cent. of the members to-day have joined during the years 1888—89. This statement, which is strictly true, may not be entirely consoling to certain milling journals that have spared no pains to "down" the Association and its officers.

As we understand it the Association is the friend and not the foe of the patentees. Its members are anxious to secure the best machinery possible at bottom prices. The Association, we believe, is in as thorough working order to-day as it ever was at any time in the past, and according to the last report of its treasurer there was more money on hand than there was present use for and sufficient for any reasonable contingencies, and it has not been necessary to levy an assessment for seven years. We take more pleasure in seeing good things built up than we do in attempting to destroy them, and for that reason have added our efforts to those of others to perpetuate the Millers' National Association.

NEW SCALPING AND DRESSING MACHINE.

KRIESS' PATENT COUNTERDRESSING OR SCALPING MACHINE.

R. EUGENE KRIESS, of Hamburg, Germany, has recently patented an improved dressing machine, which he calls the "Gegenflachen Sichtler," or counterface dresser, and of which we give sectional illustrations.

As may be seen from the accompanying cuts, the machine consists of a strong wooden frame a, with two chests, containing the vertical sieve frames and surfaces b. These chests make the same, or counter movements swinging to and from the center of the machine; they move either against the middle or in the opposite direction, thus preventing any vibration. The chests are guided in iron rails, and move very quickly by means of an eccentric shaft and bars. The shaft has, of course, four eccentrics, two for each chest, and four bars, and has two swinging wheels, one of which is at the same time the driving pulley (of two diameters) for different speeds. The material is fed to the machine by means of a distributing sieve, above the vertical sieves in each chest, and is thrown from one surface to the other while descending, in a zig-zag fashion. The shaft runs at 800 to 900 revolutions per minute, or less. The good heavy particles of flour are thrown against the silk, while the light impurities remain suspended in the air. The quality of the work is, therefore, enhanced, and experience shows that the flour is of a very superior quality. The vertical sieve frames, within which the fine flour falls down, are divided by three inclined bottoms into three compartments c, and the flour flows through the openings d, in the side walls of the chests and sieve frames, into the lengthwise channels e, and finally on to the end of the chests, and is discharged; while the tailings fall out from the inclined bottom (f) of the chests. The feeding and traveling of the material is hence effected by the shaking motion of the inclined channels.

There are, of course, three outside channels on each side of the chests, one above the other, and hence each chest gives on each side three grades, and a fourth as tailings; therefore, in all, eight grades per chest from the one material. The three, or six, outside channels communicate into two vertical tubes, so that, at will, the three or six grades can be mixed together, or drawn off separately.

The fore sieve, when used for "breaks," has three horizontal sieve frames in each chest, which give two grades each, viz., the next break and coarse middlings. Each chest, therefore, gives, as required, up to ten separations, and the whole machine twenty separations: the machine can also be used for two different products, as well as each chest for two products, by a division placed lengthwise. The sifting effect can be regulated by using a distributing sieve, of suitable perforation, and using more or less of the whole silk surface, by placing a simple wall or division above the distributing sieve, or by using different eccentrics. The normal eccentric, of throw, is 30 millimetres, equal to about 1 inch.

The dressing increases the faster the machine runs, and as the material falls down in a zig-zag fashion, only one surface is sifting, the counterface creating a suction wave of air, which is still increased by the pressing air wave of the sifting surface. The dressing is thus effected against air currents, or air pulsations—wind waves—which retain the bran and impure particles. Each chest has six sieve frames, each of which has about one-and-half square metres free silk surface. The whole machine (both chests), therefore contains 18 square metres of silk surface; the whole length is 4½ ft., the width 2½ ft., and the height about 5 ft.

The machine is driven by a 2-in. belt, and requires less than 1-10th h. p.; the capacity per hour is about 50cwt., and

even much more, according to the nature of the material and the requirements. The use of this new machine in the milling process is shown in the following table which refers to fig. 3. This table shows the use for a high grinding process, and it is self-explanatory. Fewer separations can be obtained by uniting the different channels as mentioned before, so that the machine is suitable for every kind of milling method, from the highest to the lowest style of grinding.

FEED MATERIAL.

	Reference Letters in Fig. 3.	Break Reductions. Products.	Finished Grinding. Products.	Grading Middlings. Products.	Grading Dust. Products.	Flour Dressing. Products.
Flour.....	a.....	Feeding spout.....				
	b.....	Next break.....				
	c.....	Coarse middlings.....				
	d.....	Flour.....	Flour.....	Coarse middlings.....		
Flour.....	e.....	Middlings.....		Middlings 8 grades.....	1.....	Flour.....
	f.....	Dunst.....	Dunst.....		2.....	
Dunst.....	g.....	Middlings.....			3.....	
	h.....	Tailings.....	Tailings.....	Tailings.....		Tailings.....
Tailings.....	i.....	Tailings Middlings.....				

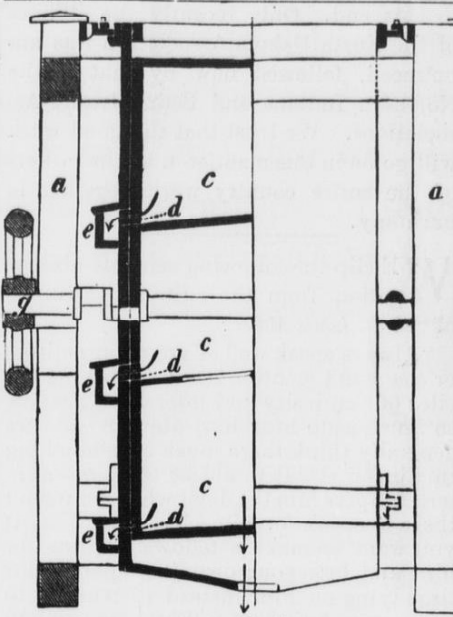


Fig. 1.

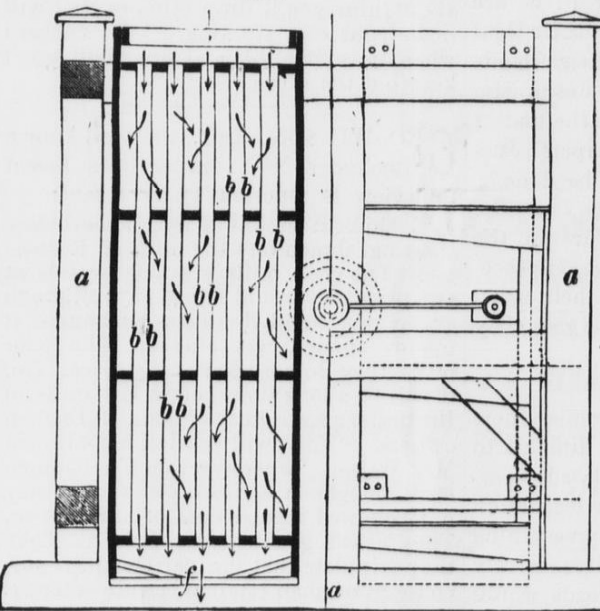


Fig. 2.

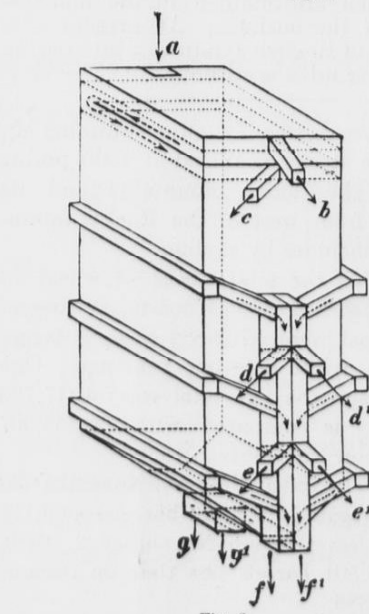


Fig. 3.

KRIESS' PATENT COUNTERDRESSING OR SCALPING MACHINE.

The inventor, to whom we are indebted for the above particulars, claims for his machine the following advantages:

1. Largest capacity, because (a) largest sieve service in smallest space, and (b) the whole surface utilized; (c) the capacity proportional to speed, (d) which is much higher than in horizontal sieves, and (e) the material is very finely distributed, mixed with air, so that all of it in the best

- manner touches the silk as frequently as possible.
2. Superior quality, as it is bolting on a perfect principle, retaining the impurities, purifying the flour by air pulsations, and giving sharp flour, as coarse particles are thrown through the meshes, and do not slide upon the silk.
3. As a flour dresser or flour purifier the machine is quite a new thing.
4. Absolutely clean tailings, which is a very important point.

5. A much larger percentage of fine flour.
6. No clogging of cloth; the only machine which has overcome this evil.
7. No material wear of the silk, which is not charged by the material, but the latter is suspended in the air. The silk will last for years.
8. Very gentle action upon the material.
9. The power to drive is almost nil, as it is hardly one-tenth h. p. per machine. The power saving is therefore about 95 per cent. against most other machines.
10. Can be applied to any material with equal results.
11. Replaces a complete system of scalpers, graders, flour dressers, centrifugals etc.

12. Utmost simplicity of construction and operation of the machines. Easy changing of sieve frames.
13. Enormous saving of space, 75 per cent. or more.
14. No dust, no loss by dusting.
15. No wear, no cost of repairs.
16. No cost of erection, as the machine is complete and ready to work.
17. Saves in shafting, etc., as the power to drive is very little, and the machine is very small, so that shafting can be shorter; also saves in belts, lubricating, etc.
18. Less danger of fire or dust explosions which often pass through reels and centrifugals.
19. The milling process can be shortened.
20. The low price compared with the capacity and advantages.
21. Great saving in first plant cost and general expenses.
22. No vibration; the machine stands like a centrifugal, and is quieter in working than a purifier.

This machine has been tested continuously since January, and has been improved so that it is now offered to millers as effecting a perfect revolution in milling. The machine is patented in the following countries: Germany, Austria-Hungary, Russia, Poland, France, Belgium, Italy, Sweden, Denmark, Norway, Switzerland, Luxemburg, Spain, Great Britain, United States of America and Canada.

TRADE NOTES.

THE VORTEX DUST COLLECTOR Co., of this city report a good steady trade on Dust Collectors, both from millers and millfurnishers.

THE UNION IRON WORKS, Decatur, Ill., are driven to full capacity in endeavor-

ing to supply the country with their Western Mill Cornsheller, Cleaners, Separators and elevator machinery.

E. P. ALLIS & Co., have just received from F. Wildermuth & Bros., a cable order for a complete outfit for a 40 bbl. mill which is to be erected as an exhibit at the Buenos Ayres Exposition, which opens next Spring.

THE MENASHA WOOD SPLIT PULLEY Co., has increased its capital stock from \$30,000 to \$50,000. This company has met with wonderful success from the very beginning due, of course to the value and adaptability of the articles they manufacture.

THE H. J. Deal Specialty Co., Bucyrus, Ohio, have furnished the Imperial Roller Mill Co., Duluth Minn., their celebrated Clipper baking test for flour. They are having quite a successful trade on this, and in fact have it in use in the leading and best mills throughout the United States and Canada, as well as foreign countries.

THE COCKLE SEPARATOR MFG. Co., of Milwaukee, Wis., report recent orders from the following parties: Stokes Bros., Watertown, Dak.; Foote Bros. & Co., Oshkosh, Wis.; C. Holch, Wilton, Wis. (Cockle Separator, Morgan Scourer, Pulleys, Bolting, Etc.); Weisel & Vilter Mfg. Co., Milwaukee, (large Morgan Scourer); A. J. Gove, San Francisco, Cal.; Chas. Kaester & Co., Chicago, Ill., (large Morgan Scourer); S. T. & R. Coman, Fox Lake, Wis.

THE SUPERLATIVE PURIFIER MFG. Co., of Milwaukee, report recent orders for New Era Scalpers from the following parties: L. G. Green, Hudson, Wis.; Dr. C. G. R. Moutoux, Kasson, Ind.; C. A. Pillsbury & Co., Minneapolis, Minn., 4 machines (for Palisade Mills, making 25 in use in that mill); Minneapolis Flour Mfg. Co., 3 machines (Standard Mills, making 10 in use in this mill); Rosemalt Works, Waukegan, Ill., (20 machines); Geo. Fox, Lockland, O.; Asa Knott, Walkerton, Ind.; Kehlor Bros., St. Louis, Mo.; Newton House, Elwood, Ind.; Walton & Whisler, Atlanta, Ind.; Kansas City Mill Co., Kansas City, Mo., (two sieve machines.)

CATARRH,

CATARRHAL DEAFNESS-HAY FEVER.

A New Home Treatment.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—Christian Advocate.

Sufferers from Catarrhal troubles should carefully read the above.

CALIFORNIA & MEXICAN TOURS,

Via the Queen & Crescent Route, have been appreciated by hundreds who have been carried across the continent with comfort to the Pacific Coast or to balmy Mexico via Lookout Mountain, New Orleans and the Sunny South, without breaks or detention, escaping the rigorous winters and the discomforts of snow blockades of the more northerly Routes. This line, appreciating the generous patronage it has received, has still further improved its train service, and are now running a through Tourist Sleeping Car from Central Union Depot, Cincinnati, to Los Angeles and San Francisco without change. These Tourist Sleepers are furnished with pillows, sheets, comforters and every thing necessary to the comfort of the traveler at a very small cost. The run is made through to the Pacific in 5 days. These Tourist Sleepers leave on the following dates at 8 p. m.: Nov. 6th and 20th; December 4th and 18th; January 8th and 22d; February 5th and 19th; March 5th and 19th; April 2d and 16th; May 7th and 21st. Two Express Trains leave daily via this line, making close connections at Shreveport and New Orleans for Texas, Mexico, California and the Far West. Ask your Ticket Agent for tickets via Queen and Crescent Route. Geographically correct County maps of Kentucky, Tennessee, Alabama, Mississippi and Louisiana mailed free to any address on application to D. G. Edwards, G. P. & T. A., Cincinnati, O.

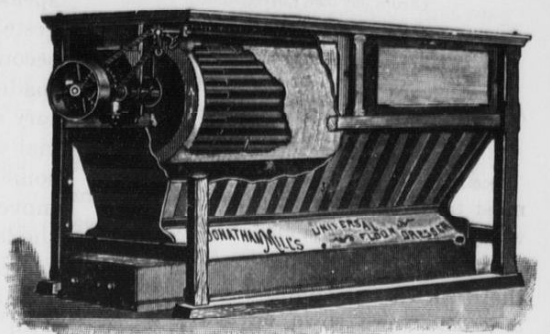
MILLERS

OF THE UNITED STATES AND CANADA.

Write us for our new pamphlet and revised price list of our Jonathan Mills UNIVERSAL FLOUR DRESSER. The best machine on the market. Giving satisfaction everywhere in the best mills in the country. Thousands in use. We carry a full line of Crown Silk Anchor Bolt- ing Cloths and Grit Gauzes.

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COLUMBUS, OHIO, U. S. A.



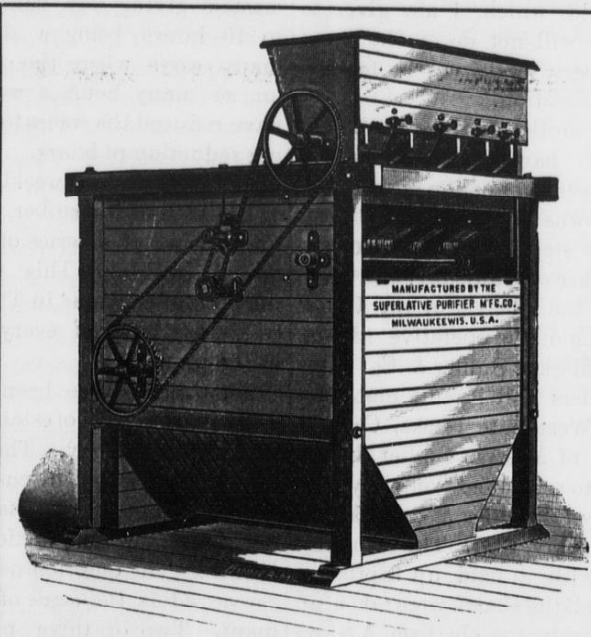
WE SOLICIT YOUR TRADE.

THE NEW ERA SCALPER

RESULTS GUARANTEED.
TRIAL ALLOWED.

Office of CEDAR FALLS MILL CO.
CEDAR FALLS, IA., Nov. 29, 1889.
SUPERLATIVE PURIFIER MFG. CO., Milwaukee, Wis.:
GENTLEMEN—We have been using your New Era Scalper on our breaks now for over one month, and we are very much pleased with them. They are a great saving of power; are very simple; require no more attention than the reels we took out. The capacity is astonishing; the action on the stock is very gentle, causing no scouring or pulverizing of stock, as was the case with the old reels. Consequently an improvement in the color of the Bakers, and a large percentage of Patent, and less Low Grade. Therefore, we consider them a great success.
W. A. DUGANE, Superintendent.
WM. EMERSON, Head Miller.

One machine will handle four breaks
in a 75 bbl. mill, or one break
in a 500 bbl. mill.



Does not scour the bran, giving higher percentage of Patent flour. Occupies but small space and requires little power.

Office of H. W. STONE & CO.
MORRIS, MINN., Nov. 23, 1889.
SUPERLATIVE PURIFIER MFG. CO., Milwaukee, Wis.:
GENTLEMEN—We enclose.....to balance account. As regards the Scalper, we are well pleased with it. We are now making 80 per cent. of patent, 5 per cent. of which is to the credit of your machine.
Yours truly,
H. W. STONE & CO.

Works equally well on winter or spring wheat in long or short system mills. Also works well on break chop.

FOR CIRCULARS, ETC., ADDRESS

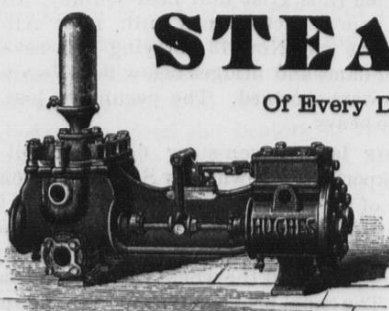
SUPERLATIVE PURIFIER MFG. CO., - MILWAUKEE, WIS.

Condemnation of Competitors IS THE MEASURE OF SUCCESS.

I CHALLENGE the wheat heater concern advertising their heater as "replacing the Welch" to publish the terms on which the Welch Wheat Heaters are replaced. I could replace any other make of heater by allowing a big price for it and selling mine low, which is equal to paying a bonus.
The "Welch" is fully guaranteed, sold on its merits and used more than any heater on the market.
823 SECOND ST.,
ST. LOUIS, MISSOURI.
A. B. BOWMAN.

Hughes Bros. Steam Pump Co., CLEVELAND, OHIO.

Builders of Single and Duplex

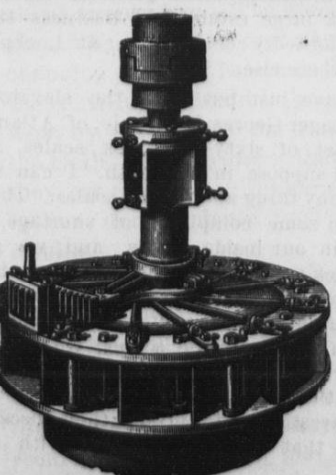


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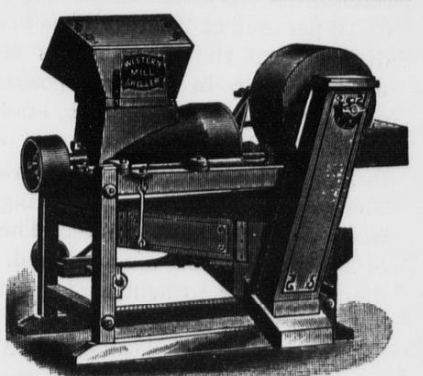
Comprising the LARGEST and the SMALLEST Wheels, under both the HIGHEST and LOWEST Head in this country. Our New Illustrated Book sent free to those owning water power.

Write us for NEW PRICES before buying elsewhere. New shops and New Machinery are provided for making this Wheel. Address,

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The most Compact, Durable, Best Sheller and Best Cleaner.
Takes up but little room, runs at low rate of speed, requires no attention. It is in every respect the
Best Sheller ever offered to the Public.



Please mention this paper. Write for full particulars to
UNION IRON WORKS, - DECATUR, ILL.
Mfrs. of "Western" Shellers, Cleaners, Separators, and all kinds of Elevator Machinery.

FOR SALE AND TO RENT.

[Short ads. inserted in this column for \$1 per insertion.]

FOR SALE OR LEASE. Mill site and improved water power for sale or lease on good terms, or will turn the property in and take partnership in flour milling business with a practical man who can furnish additional capital required. Address, F. P. BLAKE, Canon City, Colo.

FOR SALE. GRAY'S HARBOR. Having come into possession of a flour mill, and being wholly unacquainted with the business, I desire to sell either a part or the whole of the property. It is the only flour mill in this, Gray's Harbor, region, and has a good custom and merchant business, which is rapidly increasing. It requires a man who understands handling a merchant and custom mill. There are fifty-one acres of excellent bottom land included in the property. First-class water power. Address, REV. HIRAM F. WHITE, Elma, Chehalis Co., Wash. Ter.

PARTNER WANTED. A practical miller, owns a first-class water-power in Dunn County, Wis. It has rock bottom and rock banks. It is worthy of careful inspection. No mill within 20 miles. Would be plenty of custom trade. The owner has not sufficient means to build a mill and wants a partner with from \$4,000 to \$6,000 to take an interest with him. If you mean straight business, write or come and see A. BELLACH, Red Cedar Falls, Dunn Co., Wis.

MILLWRIGHTS WANTED. A head millwright, competent to take charge of large work; also millwrights to work under leader. Long job to satisfactory parties. Address, THE ROSEMALT WORKS, Waukegan, Ill.

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(From our own Correspondent.)
OUR ENGLISH LETTER.

LONDON, Nov. 30, 1889.

THE rain, snow and severe frosts of the last few days, have interrupted the work on the land in most parts of the country, and the severe weather may have come too soon for those farmers who have not yet put up all their wheat. However, considerable breadths were sown on heavy lands in many districts last week by farmers who were unable to work the land in October on account of its wet condition. A further period of dry weather would have been welcomed by some farmers, although it was not to be expected after three weeks of settled dry weather.

Sowing began very late this year in most parts of the country, and may have been prematurely brought to an end in some cases, so that the probability is that the area of wheat for next harvest is smaller than ever, as the inducement to sow that grain is not strong enough to prevail against any considerable difficulties. Many a field which would have been planted with wheat if the work could have been done well in good time will be left for barley or oats. It is always so in the late seed-time, even when the price of wheat is much more tempting than it is now.

During the past three weeks there has been a healthier tone in the wheat trade, and values generally show a decided improvement, with more doing. English wheat is being sold at 28½ to 30½ red, 30½ to 32½ white, but fine lots sell at 34½ red, 36½ to 37½ white. Flat maize is 19½ ex. ship, round 21½ ex. quay. English malted barley lower, fine foreign, firm and higher for Algerian. Feeding sorts tend upward. Foreign wheat has been neglected by buyers who do not wish accounts to fall due during the Christmas holidays. New Australian wheat is being offered at 35½ to 35½ c. i. f. Although the top price flour has gone down to 33½ per sack of 280 lbs. it has made no difference to the other brands of flour which are now in a strong position, especially English. The best brands of Hungarian have advanced to 40½ per 280 lbs., and I should not be surprised at The top price millers advancing next week if this frost continues. The price of American is not much altered, as the flour has now to fight hard to get to its old position of two years ago.

The imports of wheat and flour into the United Kingdom last month (October) were only about two-thirds of the quantity received in October 1880. For the two months of the cereal year, ending with October, the quantities of grain and flour imported was as follows—two months import of grain and flour:

	1887.	1888.	1889.
Wheat, qrs.	1,932,931	2,941,283	2,343,777
Flour as Wheat, "	968,982	927,660	735,962
Total as Wheat, "	2,901,913	3,868,943	3,079,739
Barley, "	723,011	936,393	1,128,252
Oats, "	952,376	1,206,246	1,008,587
Maize, "	936,997	1,084,214	1,272,053

Next year, it is to be hoped, we shall hear the rights of the case—the Indian wheat question—from Voelcker, chemist to the Royal Agricultural Society, who has obtained leave of absence for a year, and is leaving England immediately in order to undertake, on behalf of the Government of India, an inquiry into the scientific methods by which Indian agriculture may be improved.

On November 13th a council meeting of the National Association of British and Irish Millers took place at their office, 61 Mark Lane, London, E. C., and from what I can learn from one of the west of England members who attended, it was the largest gathering at the council meeting that he had known. A large amount of business was got through and at the close of the session a motion was brought forward by one of the ex-presidents, "that the services of their present Secretary should cease, after the expiration of the present year. This motion was seconded and supported by two more

speakers, when an amendment was suggested and adopted by the mover and seconder of the motion, which was then made to read, "that the present secretary's services should end with the financial year, namely, April 30th next. After some discussions an amendment was moved and seconded that "on account of the lateness of the hour this matter be placed first on the program for consideration at the next meeting of the council." The mover of the resolution not being willing to give way, the amendment was put to the meeting, when it was found that seven councilmen voted for it. The motion was then put and seven councilmen voted for it also. The chairman was then called upon to give his casting vote, which he did for the amendment, so that at the next council meeting the matter will be fully debated upon, unless the Secretary resigns before the next meeting is held, which, I am given to understand, he will not do, as he is of the opinion that it would not be for the good of the association.

Since I last wrote, meetings of the operative millers have been held two or three times a week in London and several of the larger towns in the north and west. The first active steps on the part of the Union, took place on Thursday, last week, when one of the officials of the Union called a meeting of the operative millers, employed at Messrs. Spiller & Co. Limited, flour millers and biscuit manufacturers of the West Bate Docks, Cardiff. The old firm of Messrs. Spiller & Co. was formed into a Limited Company, under the style of "Spiller & Co., Cardiff Limited," February, 1887. The company was formed with a paid up capital of £415,000, and all the shares were taken up by the partners in the old firm, Messrs. Charles Thompson, Richard Allen, James P. Thompson H. N. Thompson a few of and their relatives and clerks. The firm has done remarkably well since its formation and have been producing in their three mills, abutting on the West Docks, as much as 8,000 sacks of flour per week. Between 400 and 500 persons are employed at the mills. They have become dissatisfied with their wages, although they are even higher than other mills on the west coast, and have come out on a strike. The climax was reached last Thursday week, when a deputation waited on the members of the firm, who, however, would not see the men. The same afternoon, after a consideration, the members of the firm posted up in their mills an offer of a bonus of £1,200, to be divided between the men employed in the mills next May, but if any went out on strike they would forfeit the right to their share. The men, however, came out on strike a day or two ago and from a conversation I had with some of them on Wednesday last they seemed determined to abide by the demands they have made for a reduction of the hours of labor from 60 to 54 hours per week and a slight increase of wages. The men are receiving a great amount of public sympathy and the feeling in their favor is accentuated by the fact that Messrs. Spiller & Co. are said to have made a profit last year of something like £135,000. The masters have expressed their determination not to employ any unionists, and are already advertising for hands to take the place of those on strike. However, no laborers have yet been found to discharge ships laden with grain consigned to Messrs. Spiller & Co., and with the exception of one mill, which is kept going by over men and others who do not belong to the Union, the immense works are at a standstill. Last Wednesday an advertisement appeared in a Birmingham paper from Messrs. Spiller & Co. for millers, laborers, etc., and on it becoming known to the strikers they promptly telegraphed another advertisement to the paper, warning working men elsewhere to keep away from Cardiff while the strike was pending. The strike is caus-

ing dislocation of trade in Cardiff. Three grain vessels were left partially discharged by the dock laborers, who have resolved to make common cause with the men of Messrs. Spiller & Co. On Wednesday another vessel arrived for the same firm, but no one has attempted to unload it. Fifteen trucks of English wheat are on the Great Western Railway siding, but they cannot be moved as there is no room on the mill siding. This is the first great step taken by the millers to obtain an amelioration of the condition under which they work and the result is being watched with great interest throughout the country. Large demonstrations of the men have been held every day since Wednesday, when the principal streets were paraded with flags, banners and music. The strike of the bakers in London, which occurred a week ago, is practically at an end, the masters giving way "all along the line" to 10 hours being a day's work. In many cases where the men were paid for so many hours a week, the masters have reduced the wages to the corresponding reduction of hours.

The Miller, in its weekly market issue of the 18th of November, commenced the publication of a series of special articles on oil milling. This the proprietors purpose to continue in The Miller Weekly Market Issue of every third Monday in the month.

A movement has been started in London with the object of establishing a Jewish agricultural colony. The Anglo Jewish Association, which discussed the matter at its last meeting, has taken the scheme in hand in conjunction with Baron Hirsch. The question now being eagerly canvassed is the locale of the new settlement. Two or three places are mentioned. There are many ardent spirits that look with longing eyes to Palestine. While the claims of the latter are not overlooked, the London correspondent of the Manchester Guardian is told that if the object is really carried to a successful issue—and there is every possibility that it will be—British North America will probably be selected. The project is by no means restricted to England. It will, indeed, be international in its scope. Details are not yet decided upon, but the Jews here are endeavoring to secure the co-operation of their co-religionists in every part of the world. Of the fund that will be required, it is stated that Baron Hirsch and Lord Rothschild have provided a substantial nucleus. An interesting account of the agriculture of the Chinese Province of Kiangsi is given by Acting Consul Hurst. It is well watered by the Kaw and other rivers. The province is generally fertile. Tea, wheat and rice are the principal products, the first two being Spring crops, the last a Winter crop. Other Spring crops are barley, beans and peas, and among the Summer and Autumn crops are millet, maize, cotton, hemp, sesamum, indigo, sweet potatoes and yams. Wheat is reaped in the latter part of May. It is first threshed with bamboo flails, and afterwards dressed roughly and ground between millstones, revolved by the labor of men or bullocks. After the wheat has been harvested the land is at once broken up by plows and harrows, drawn by oxen or buffalos, for rice. Usually a quantity of lime is scattered over the ground, which has been first irrigated, and the land is then manured and harrowed well, after which the rice is sown. A fair crop of rice is a ton and a quarter per acre. The rice grown in the province is barely sufficient for the wants of the population. The farms vary in size from one acre to eight acres, and are in all cases tilled by the owners and their families. The people are generally poor, living from hand to mouth; for, although the land is fertile and taxation light, they show no enterprise and do not organize for mutual advantage. Each family is almost self-supporting, growing its own fruit and making its own cloth-

ing. Beyond these necessities the people have few wants and they do not exert themselves to improve their condition.

The Board of Agriculture have published some extracts from valuable French agricultural statistics, prepared by the Minister of Agriculture, in connection with the Paris Exhibition. Among the most interesting details are those showing the gradual advance of wheat production in France during the last hundred years. In 1789 it is stated there were 10,000,000 acres of wheat, producing 85,250,000 bushels. The decennial averages since that year show a constant increase, up to a production of 300,995,000 bushels from 17,395,500 acres, attained as the annual average for the decade ending 1888. To complete the century I will take the figures for the present year from the latest official estimate of the crops of 1889, namely, 315,000,000 bushels from 17,978,595 acres.

L. MAYGROVE.

NEWS.—The Chicago and Northwest Graineries Co., Limited, is the name of the new company that has purchased the Munger Wheeler Elevators in Chicago and it is stated that an opposition elevator combine will be organized.

S. L. HOBART, miller at Carthage, Ill. is dead.

BURNED, Dec. 15, the Exchange elevator, Buffalo, N. Y., with 250,000 bushels of barley.

At New Concord, Ohio, Nov. 24, H. O. Wylie's grist, mill was burned. Loss, \$7,000.

BURNED—Stevens & Van Dusen's corn and feed mill at Lockport, N. Y. burned recently. Slightly insured.

THE Northwest Milling & Elevator Co. is the name of a company that will build a mill at Regina Man.

KEHLOR BROS. large flour mill and elevator at Edwardsville, Ill. burned Nov. 26. The loss is estimated at not far from \$250,000. It was insured for about half the value. The firm own another mill so their business will not be interrupted.

AT Safe Harbor, Pa., Nov. 26, a large flour mill owned by G. A. Taylor was destroyed by fire. The building was of stone and frame and the improved roller process was but recently put into it. One thousand bushels of oats and a great quantity of other grain, flour and feed were burned. The loss will be about \$12,000 and there is an insurance of \$9,700. The fire is believed to have been of incendiary origin.

RICHARD ROBILLARD, engineer at the Pillsbury "A" flouring mill in Minneapolis, has invented a machine which he claims is a solution of the problem of perpetual motion. It requires no fuel, a little oil being all that is necessary to keep it in motion. The inventor is engaged on a larger machine, which will be carefully constructed. He has already taken steps to have his machine patented, and thinks he has made the discovery of the century.

THE Loomis Mill Co., Loomis, Neb. has started up its 75 bbl. mill—Burned Oct. 29. A. Shell's mill at Fremont, O.—The Seyk mill at Kewaunee, Wis. was recently damaged slightly by fire. Insured.—Burned, Berrien Bros. grist mill near Quincy, Ill.—The dam at McClellands mill, near Alton, Ill. gave way Nov. 13 carrying out several other dams and bridges below it. Two persons were drowned. The pecuniary loss is quite heavy.

THE large seven-story flouring mill in Lockport, N. Y. owned by Saxton & Thompson, of Troy, N. Y. was destroyed by fire Dec. 8th. There were 35,000 bushels of wheat and about 7,000 barrels of flour in the mill. A big portion of the wheat ran into the canal. The canal bridge adjacent to the mill was ruined. The total loss is estimated at \$250,000, insurance about \$100,000. As this firm has a large established business they will undoubtedly rebuild either at Lockport or somewhere else.

"We have just put in at the elevator," said Manager George E. Hoppie, of Atlanta, Ga., "a set of sixty-ton track scales, the largest, I suppose, in the south. I can tell you a funny thing about those scales. There has been some complaint of shortage of weights in our inside scales, and we got these track scales as a check. After we had put in these new scales, some of our men were cleaning out the shutes which convey the grain to those inside scales, when they found two big fat possums. I wouldn't believe that they had come from the shutes until I investigated for myself; then I became satisfied that the fault wasn't with the scales."

MILLING THOUGHTS.

BY J. F. MUELLER.

Millers in general, however, since the advent of the roller system are becoming more lenient than they were formerly, and are willing to investigate and consider new theories that may be advocated. Some millers bade farewell to their burrs reluctantly, even after seeing the advantages of the reformed system staring them in the face. Those who lingered a little too long were superseded by new comers. The majority of them, however, no longer revered the steel points in their hands and were ready to accept what the new system had in store for them. It was probably left largely for the millers to solve the problem themselves, to suit their own individual cases, after becoming familiar with the general characteristics of the rollersystem. Thus new and varying notions and ideas began to prevail. It is always a surprise to find a miller still clinging to the burr system. They are beginning to get very scarce, however, particularly where milling for profits is the ruling spirit.

The slower a centrifugal can be run the less power will be required to hold it to its work. The power required to drive a centrifugal as compared with the power to drive the ordinary round reel or flourdresser has often been discussed. It would seem apparent however that the centrifu-

It would be an easy matter to give this a test by applying a belt to a centrifugal to drive the reel without giving motion to the beaters—the belt to be no larger than is necessary to drive the reel without slipping. Then make the connection with beaters and put on a belt of sufficient width over the same pulleys (supposing the pulleys to be of sufficient face). In this case we have the reel transmitting power to the beaters, however the actual power consumed by the centrifugal remains about the same whether we have the connection made in this way or in the usual way. Would it not be reasonable to believe that the beaters running eight times faster than the reel would add considerable to the power consumed? Some will argue that the centrifugal requires less power owing to the fact that the material is more evenly distributed than in the ordinary round reel. But does it not require a considerable amount of power to exert the beaters to distribute the material? As for distributing the stock the slow-revolving, inter-elevator reel or flour dresser accomplishes the work, and there certainly is a saving of power compared with the power consumed by the ordinary hexagon reel or centrifugal. The centrifugal is at present used principally on low grade or soft stock. While it is no

FIG. 3.

Much waste is caused in the choking down of smutters caused by slipping belts. This is often the fault of the builder, who

Time spent in making the mill tidy and in removing every thing calculated to vitiate the air is time well spent and money earned. The mill that runs smoothly, and does its work silently is almost invariably a clean mill; where cleanliness predominates in a mill you will generally find a competent miller. The mill that pounds and groans as it does its work is nearly always dirty—in fact filthy—is expensive, a nuisance and is usually to be found in charge of a person whose chief concern is quitting time and the weekly envelope.

FIRES IN GRAIN ELEVATORS.

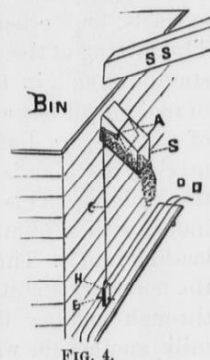


FIG. 4

It will be readily seen that this device not only indicates a stoppage of the carrying belt, but also indicates when the

Correspondence in relation to this Alarm
addressed to the E. H. Pease Mfg. Co.,
Racine, Wis., will receive their prompt
attention.

COMPOUND INTEREST ON A QUARTER.

After the war the younger boy became a clerk in the War Department. Within the last fifteen years the older boy, who had become a lawyer and an orator, announced himself as a candidate for the United States Senate, and he had a large following. It looked as though he might be elected. But one morning the newspapers in many portions of the country and especially those of his own State published a statement to the effect that the candidate had been dismissed from the army for cowardice and other questionable conduct. The lawyer denied the charge, and extracts from the records of the War Department were published, showing that the charge was true. He was not elected. After his defeat was accomplished, he received a letter postmarked Washington, D. C., of which the following is an exact copy: "Do you remember the day you outraged a little fellow's feelings and almost broke his heart by stealing a quarter from him? That debt cost you a seat in the Senate." *Washington Capital.*

RECENT PUBLICATIONS.

The Art Amateur winds up the year in a royal fashion, giving as one of its two colored supplement plates a superb picture of pears, over a foot high, and two and half feet wide. It is a perfect fac-simile of the original oil painting, and framed, it would deceive any one. It is really marvellous how such a picture, which would cost many dollars at any art store, can be given away with a magazine for thirty-five cents, together with all the other supplements and scores of illustrations with the letterpress, treating of every kind of practical art work. No more suitable Christmas or New Year present could be found than a subscription to *The Art Amateur*, which is really invaluable to all having homes to furnish or decorate, or wishing to learn oil, water-color or china painting, wood-carving, brass-hammering, book and magazine illustrating, and art needle-work. Price \$4.00 a year. MONTAGUE MARKS, Publisher, 23 Union Square, New York.

MANUFACTURE OF CRACKERS.

THE business of manufacturing crackers—not firecrackers, but the kind that are furnished at every lunch table and picnic party—has grown to be a great industry in this country, and in the city of New York alone, probably from 3,500 to 4,000 men, women and children are employed in this work. It is only within the last fifteen years that the business has grown to such prominence. Before 1870 the only crackers made in this country were the old-style or standard soda, milk, butter, lemon, and oyster-crackers, ginger-snaps and pilot-biscuit. The only kind of fancy cracker made at that time was a dry, slightly sweetened biscuit made up in peculiar forms; but these crackers bore about as much resemblance to the fancy crackers with which picnic parties of the present day can regale themselves as the old oblong box-cars which were run over the first railroad to the magnificently equipped drawing-room cars now in use on all the principal railroad lines.

This rapid growth of the cracker-baking industry can be ascribed to the brisk demand that followed the introduction of the fancy crackers or English biscuits first brought into this country in 1868. These biscuits were imported by a well-known grocery house of N. York. Although their cost to the consumer was more than double the price asked for the homely domestic cracker of the day, there was at once so great a demand for them that the importers were not able to keep their customers supplied. The first of these crackers brought to this country were known as "Cornhill" biscuit. They were of various shapes, were toothsome and novel, and seemed to fill a void in the American picnic bill of fare. The ready sale which these crackers met with induced the firms engaged in supplying the American market to forward a large consignment of "Albert" biscuit. The youngest child in the land who knows anything about crackers has made the acquaintance of this variety, but twenty years ago his parents had no idea of what the term meant. These biscuits found as ready a sale as the "Cornhill" crackers did, and about a year later the first "fruit" crackers were put on sale in the American market. For two or three years all the crackers of these three varieties used here were imported from England and were sold at prices ranging from twenty-five to 40 cents a pound.

The first "Cornhill" biscuit made in this country were manufactured in 1869 by John Holmes, who is still engaged in the industry. The machines in which the crackers were made and dies for cutting them out were imported from England, and it is even reported that Mr. Holmes employed men from the other side of the ocean to mix the dough and make the crackers. This, however, was before the days of the law prohibiting the importation of laborers under contract. In 1870 the first "Albert" biscuits were made in this country. These were also made in English machines, and cut out by dies imported from that country, but these were the only machines brought to this country. All others were made here, and the many improvements in the machines and dies have apparently brought cracker manufacture to a state as near perfection as possible. American ingenuity and mechanism have, moreover, advanced the industry much more rapidly in this country than it has advanced in England, and while about fifteen years ago there were probably not more than a dozen varieties of fancy crackers, most of which were brought from England, to-day there are more than two hundred varieties manufactured. Moreover, there are more crackers shipped from the United States to England in one year than were imported into this country in the three years previous to the date when the manufacture was begun here. Not only this, but the United States are also carrying on a very heavy trade with Brazil, Mexico and other

South American countries, and with Cuba and other islands in the West Indies.

There are in New York City sixteen cracker bakeries, two or three in Brooklyn, and factories in Boston, Philadelphia, Chicago, Buffalo, and every other large city. The total number of firms engaged in this business cannot be definitely learned, but a well-known manufacturer said that it would not be an exaggeration to place the number at 400, with a producing capacity ranging from 100 to 600 barrels of crackers per day each. There is apparently no end of making new designs for crackers. Some of these "take" well, and meet with a steady sale. The demand for others lasts a little while and then falls off, while others still are a total failure. "Alphabets" and "dominoes," both of which have names sufficiently descriptive, have about had their run, the demand for these varieties being now very light. Medallions made to represent the faces of Gen. Grant, Peter Cooper, Gen. Butler, and other well-known persons, found a ready sale for a short time. In the campaign of 1884 "campaign" crackers, made to represent the faces of Cleveland and Blaine, were put on the market by one firm. The smallest cracker made is the "imperial dot," and the purchaser who buys a pound package of this variety can, if he has fourteen children, give 100 crackers to each of them. These crackers are very popular. Other favorites are the "Oswego," "snow-flakes" and "macaroons." Many of the finer varieties have a coating of icing or chocolate, while others still, of the larger sizes, have white or colored icing laid on in fanciful devices. These designs are made by means of a pair of bellows, the nozzle of which is of the shape of the design required, and icing is forced through upon the surface of the cracker while it is still warm.

In one of the largest cracker factories in the city of New York, the weekly supply of materials is 600 barrels of flour, 3,000 pounds of butter, 20,000 pounds of lard, 80 barrels of sugar, 25 barrels of molasses and 15 barrels of dried currants, together with eggs, honey corn-starch, flavoring extracts, and other needed ingredients. The mixing of the dough, the rolling, the stamping, and, in fact the entire process of making all but a few of the finer grades of crackers, are done by machinery. The mixing machine is on the second floor of the building. This is a large wooden cylinder, with a number of wooden shutters leading into it. Through one of the shutters the necessary amount of flour is supplied, through another the sugar, another the milk, another the water, etc. In the mixer are three bars or spoons revolving alternately after the style of the ice-cream freezer, which thoroughly mix the dough. When mixed the dough is taken to the third floor where a number of bins are placed in which it is set to "rise." When ready for baking it is again taken to the floor below, where it is placed on a tray and kneaded by the bakers. As they knead it, portions are sliced off, which are put in the rolling machines, and are run under the rollers four or five times, until the paste is thin enough, it is then placed on the cracker-machine in the form of a continuous belt of dough.

This first passes under another roller, with knives at each end, which cut off superfluous dough at the edge of the belt and trim it to a proper shape. It then passes to the cutting or die machine. This is a large drum which cuts the dough into the form which the crackers are to have, and at the same time stamps the name of the cracker or manufacturer, or any design that is desired. As the crackers pass out from under the cutting machine, they are pushed on to trays, which are taken at once to the ovens. These are reel or cylinder ovens, which are about twenty feet in diameter and have fires at the bottom. Above the fire is a large wheel or cylinder. On the outer frame of this are ten swinging wire trays. On these trays the crackers as they are turned out from

the stamping machines are placed, and the wheel revolves slowly, lowering the next tray into position. Thus the wheel is kept in constant motion, the trays stopping over the fires just long enough properly to bake the crackers, which are removed from the trays after making one circuit of the oven. In stamping or cutting soda and other square crackers there is little waste, but in cutting out others of more fanciful forms fully one-half of the dough that passes under the die is unused. This is not wasted, as it is again passed under the rollers. The surplus material is separated from the perfectly formed crackers by an ingenious contrivance, consisting of an iron bar with a toothed edge.

The soft crackers, such as "lady-fingers," "butter-scotch," "honey-cakes," etc., are baked in square ovens resembling the ordinary house oven. Some of these cakes are made by hand, but most of them by machine. The dough which is soft, is placed in hoppers with perforations in the bottom. Through these holes the dough is dropped upon the pans in the form which the cracker is to have. The process of making cocoa-nut cakes, for instance, is this: The dough is dropped upon the pans, six or eight cakes on each. Then, as it adheres to the pan, a baker turns it upside down, just touching the cakes into a vat of pulverized cocoa-nut. The tray is next put into the oven, and in two or three minutes the crackers are baked. Then the crackers are taken to the upper floor of the building, and after cooling and hardening, are packed in barrels or in the square tins with glass fronts with which every one is familiar. This work is done by boys and girls.

Everything about the bakeries is kept in good order, there is no dirt or dust, and all the materials used, the manufacturers declare, are of the best grade. The currants used in making the fruit-crackers are first washed and then carefully sorted over. The process of making the fruit-cracker is somewhat different from that of other flat or hard crackers. The dough is rolled a little thinner than for the common cracker, a layer of currants is spread over it, and then another layer of dough is placed upon this. The dough is next run through the machine. In making the "flake" crackers, a very light soda biscuit, the dough is also rolled very thin, and the crackers are in the reel oven less than half a minute. These wafers are so thin that the name or design on them can be read by looking at the reverse side as the cracker is held to the light. Another style that calls for special mention is the "charcoal" cracker. This is made by mixing finely pulverized charcoal with the dough, and the variety is held in high esteem by dyspeptics.

CAWKER'S AMERICAN FLOUR-MILL AND GRAIN ELEVATOR DIRECTORY FOR 1890-'91.

THE above standard work will be ready for delivery in March, 1890. This will be the seventh directory of the flour and grain trade, issued by the publisher, and all who have used them, testify to their increasing accuracy and utility to the trade. Briefly outlined, the principal features will be as follows:

1. List of Flour Mill owners of the United States and Dominion of Canada, Post Office address, County and State, and where information is obtained capacity in barrels of flour per day of 24 hours; kind of power used (steam or water), roller or stone system.
2. Lists of Corn, Oatmeal, Rice, Rye Mills, etc.
3. List of Grain Elevators and Warehouses.
4. List of Millwrights.
5. List of prominent American Flour and Grain Brokers.
6. List of Foreign Flour and Grain Importers.
7. List of Mill Furnishers, etc.
8. Statistics valuable to the trade.

Communications from millers in all parts of the United States and Canada on any of the above mentioned points, will be thankfully received by the publisher. Further, any suggestions that will tend to

add to the value of the work will be fairly considered. All letters concerning this matter should be addressed to E. H. Cawker, Milwaukee, Wis.

ITEMS FROM BEYOND SEAS.

THE manufacture of artificial coffee beans from burnt flour or meal is being carried on in Germany. They are made in specially devised machines so skilfully as to closely resemble the genuine beans. They can, however, readily be distinguished by their property of sinking when immersed in ether, as the genuine bean floats on the surface of the liquid.

MESSERS. P. MILLER & SOHNE, Mannheim, Germany, are making an article of food which they call "cocoa-nut butter" from cocoa-nuts imported from the tropics. It is used as a substitute for butter and is sold for about 13 cents a pound. There is a very large profit to the manufacturer and U. S. Consul Monaghan suggests that it would doubtless prove a good business in the United States.

MANY tales are told of the readiness and good humor of Bishop Selwyn's wife. While at Pitcairn Island, being weary of pork and yams, Mrs. Selwyn determined to bake a batch of bread. Some flour had just arrived in an American whaler, but there was no yeast. She took, therefore, some froth off a glass of stout, added brown sugar and a few slices of potato, and corked it all into a bottle, which she placed in the blazing sunshine. In an hour or two a welcome "Pop" startled her whole workclass to their feet. "Ah! there's my yeast." And, throwing work to the winds, all rushed to secure the welcome heaven-sent leaven. It was from this sacred primeval mess (as fire from the sacred hearth, in ancient classic story) that Pitcairn land, for many a long day, drew successive growths of yeast, and baked successive batches of good wholesome domestic bread.

ELECTRIC LIGHTING AS A SCIENCE.

To the Chicago, Milwaukee & St. Paul R'y Co. belongs the credit of being the first in the country to undertake systematic experimenting in the direction of steam-heating of railway trains. The perfection of the system they have elaborated is well-known to the traveling public, its elements of safety, automatic regulation of temperature and perfect ventilation leaving nothing to be desired.

The energies of the company have now been directed towards progress in lighting, and to-day attention is called to what are unquestionably the most perfectly appointed trains in this respect in the world. They have by costly experiment and careful study, reduced the matter of electric lighting of trains to scientific perfection, and the introduction of several unique features has made possible the attainment of a degree of comfort unheard of heretofore.

The apparatus for heating and lighting is of perfect and elaborate character, being, in fact, a complete central station plant in miniature on each train and under the constant supervision of a special attendant, whose duty it is to see that at all times the amount of heat and light supplied, is regulated according to the requirements. No accident to the engine or dynamo machine can cause an interruption to the light, as a reserve plant of batteries is carried for such an emergency.

Leading from the dynamo room and regulators the main wires pass out and over the roofs of the cars to flexible connections between them, thence to switch boards and safety devices in each car, and finally through branch wires to the lamps. These have been lavishly introduced in both cars and vestibules, producing a brilliant illumination without the attendant annoyance of heat, odor, or other disagreeable features inseparable from the use of oil.

One of the novel features introduced in the sleeping cars is a patent electric Reading Lamp in each section. With this luxurious provision reading at night, before or after retiring, becomes as comfortable as by day, and when retiring the toilet may be made in comfort and seclusion.

It is a fact well known to travelers that, although a car may appear brilliantly illuminated on entering, a few moments' reading will severely try the eye-sight, and show that it is in reality far from perfectly lighted. The Berth Reading Lamp introduces the exact conditions of the study lamp at home, casting an agreeable and brilliant light directly upon the work.

In construction it consists of an elegantly designed metal case containing an electric lamp so hidden that the light is thrown only in the direction wished, and its use does not interfere with the comfort of others. When no longer needed a shutter may be drawn and the light obscured. This feature, found alone upon the vestibule trains of the Chicago, Milwaukee & St. Paul Railway, needs only a trial to be appreciated.

"Let your light so shine before men that they may see your good works."

PRODUCTION OF COTTONSEED OIL IN THE UNITED STATES.

COTTONSEED oil is obtained from the seeds of the *Gossypium herbaceum*, and the percentage of oil varies in the seed from 10 to 30. From a report recently issued by the United States government, it appears that from September 1, 1883, to September 1, 1886, there were exported from New York 88 871 barrels, and from New Orleans 186,720 barrels, making a total of 275,591 barrels from the two ports. The following is the method adopted in its preparation: The seed, when landed at the mill, is first examined. If too damp or wet it is dried by spreading it over a floor with free access of air, exposing it on frames to the sunlight in warm weather, or by kiln drying. Drying is the exception rather than the rule in the United States. Cotton ginning is so carefully done that the seeds have little or no opportunity to become wet. Besides this the seed is generally held at the gins for some time before it is sold to the oil manufacturer. The first process in preparing the dry seed for the mill is to free it from dust. This is effected by shaking it in a screen, or in drums lined with a fine metallic net, and containing a strong magnet, to which any iron nails will adhere, these articles being frequently present. From the drums the seeds drop into a gutter, leading to a machine which removes the lint left by the gin. This is done by a gin constructed for the purpose, with saws closer together than the ordinary cotton gin. An average of 22 pounds of short lint is taken from a ton of the seed. This product called 'linters,' is used in the manufacture of cotton batting. The clean seeds are then transferred to the sheller, which consists of a revolving cylinder, containing twenty-four cylindrical knives and four back knives. The sheller revolves at great speed, and as the seed is forced between the knives the pericarp or hull is broken and forced from the kernel. The mixed shells and kernels are separated in a winnowing machine by a strong blast of air. This removal of the husk makes a considerable difference in the meal cake, a desiccated or decorticated cake being, it is said, five times more nutritious and wholesome than an undecorticated cake. Being thus cleaned, shelled and separated, the kernels are carried by a system of elevators to the upper story, and then pass down into the crusher rolls to be ground to flour. Cold pressure produces a very good salad oil, and this is the method generally pursued in Marseilles and other European cities for the first pressure, after which the residue is subjected to a warm pressure. In the United States, however, warm pressure is generally preferred. The meal is heated in a meal-heater for fifteen or twenty minutes to 204° to 215° Fahrenheit. The heated meal is placed in woolen bags, each holding sufficient seed for a cake. The bags are then placed between horse-hair mats backed with leather, having a fluted surface inside, to facilitate the escape of the oil under the hydraulic pressure, amounting to 169 tons. With the most improved presses the hair mats are now, however, done away with. The bags remain in the press seventeen minutes, the solid oilcake of commerce remaining behind. The cake forms a superior food for cattle, horses, sheep and swine, and is nutritious, easily digested and fattening. The crude oil, as obtained from the press, is pumped into the oil-room, and either put into barrels for shipment or refined. There are four qualities of the oil. Crude oil is a thick fluid, and of a dirty yellow to reddish color; on standing, it deposits a slimy sediment. The second quality has a pale orange color and is obtained by refining the crude oil, which is done as follows: After weighing, the oil is pumped into refining kettles. These are of various sizes, the largest being 20 to 25 feet deep

and 15 feet in diameter. These tanks are furnished with steam coils for the purpose of heating the oil, and with appropriate machinery for keeping it in motion. A solution of caustic soda is used for refining; this solution is made from 10° to 28° Beaumé in strength, and varying quantities are used, according to the nature of the oil operated upon. After the addition of the caustic soda, the mixture is stirred up for forty-five minutes, and kept at a temperature of 100° to 110° Fahrenheit. The contents of the tank are then allowed to stand from six to thirty-five hours, when the solid matters—soap and substances precipitated by the caustic alkali—gather on the bottom. This mixture is called 'foots,' and is used for making soap. The yellow oil resulting by this process is further purified by being heated and allowed to settle again, or by filtration, and is called summer yellow oil. Winter yellow oil is made from the above material by chilling it until it partially crystallizes, and separating the stearine formed, about 25 per cent., in presses similar to those used for lard. This cotton-oil stearine is used for making butterine and soap. The yellow oil obtained as above is treated with from 2 to 3 per cent. of fullers' earth in a tank furnished with apparatus for keeping the mixture in motion. When the fullers' earth has been thus thoroughly mixed with the oil, the whole is sent to the filter press. The fullers' earth has the property of absorbing or holding back the yellow coloring matter, so that the oil which issues from the press is almost white. The coloring matter, termed gossypin, is collected in a filter, carefully washed to remove any trace of acid, and dried slowly at a low temperature. It is then ready for use as a dye, and gives fast colors on both silk and wool. It is claimed that the quantity of coloring matter in a ton of crude oil is fifteen pounds, although this proportion must vary considerably. Its properties are insolubility in acids, slight solubility in water, free solubility in alcohol or alkalis. In its dry state it is a light powder of a pungent odor, of a brown color, and strongly tinctorial.

A NEW METHOD OF TREATING DISEASE.

Hospital Remedies.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, has ruined more stomachs than alcohol. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

TO FLORIDA

Commencing December 8th, the Queen & Crescent Route will have double daily Sleepers, Cincinnati to Jacksonville, with Pullman Palace and Mann Boudoir Sleepers. This line is 110 miles the Shortest and 3 hours the Quickest, and the only line running Compartment Sleepers (in which a section is practically a state room.)

Train leaving Cincinnati 8.10 am. has Through Sleeper via W. & A. Route, arriving Jacksonville 11.30 next morning. This is the fastest time ever made—(27 hours and 20 minutes).

The Florida Special leaving Cincinnati 7.00 pm. with Baggage Car, Day Coaches, and Pullman Palace and Boudoir Sleepers, runs through solid via E. T. V. & G. Route—no change for any class of passengers or baggage—arrives Jacksonville 11.45 next evening.

Train leaving Cincinnati 7.00 pm has Pullman Palace and Boudoir Sleepers Cincinnati to Jacksonville via W. & A. Route, arriving Jacksonville 7.55 second morning.



Deal's Improved Grain Tester

FOR TESTING

Wheat, Barley, Malt, Oats, etc.,

Is an Indispensable Article to all Dealers in Grain.

THOUSANDS OF THEM IN USE. ☼ GRAIN SAMPLERS OR TRIERS.

Write for Illustrated Folder of Flour and Grain Testing Appliances and SPECIAL PRICES.

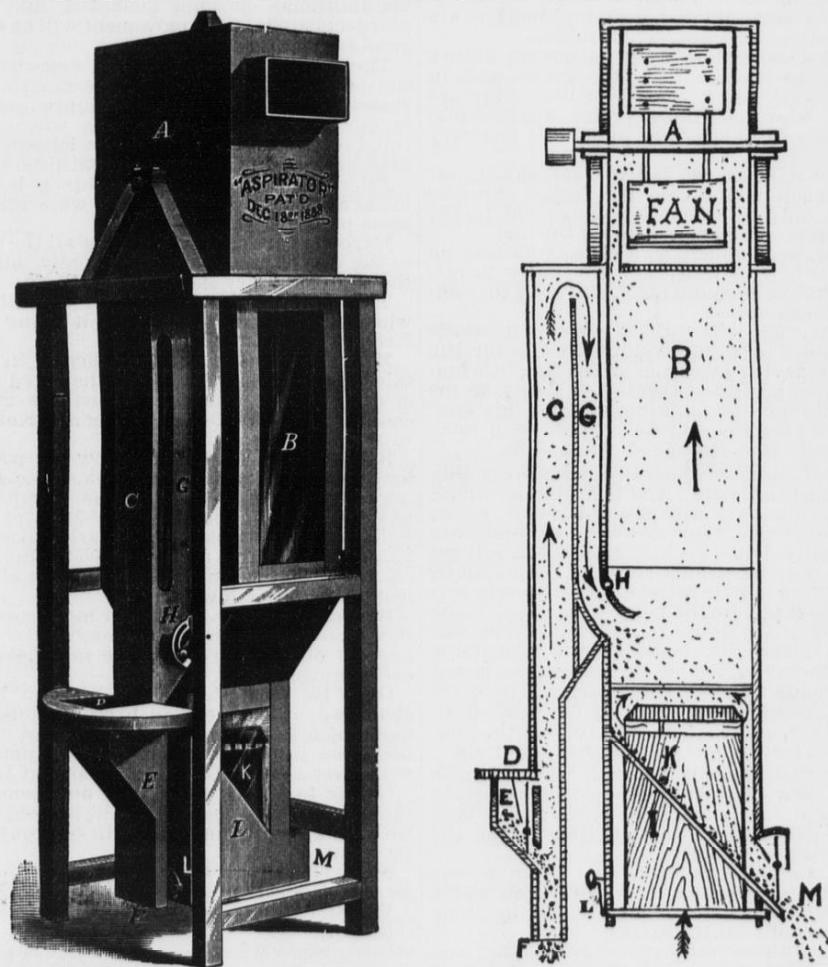
They Are Standard.

H. J. DEAL SPECIALTY CO.,

BUCYRUS, OHIO.

THE BEYNON ASPIRATOR.

This Aspirator makes three separations of the material. It removes all Branny and Fluffy material. It removes the Crease Dirt from the material of the first-break Roll better than any Double Scalper or other machine ever produced. For dusting the break-material as it leaves each Scalper it has no equal, and works to perfection on the different reductions of Germ Stock. Being upright, it requires very little space, and is the lightest running machine in the market.



The material enters at Hopper D, having an Automatic Valve E to prevent the air entering over the material into Flue C, the clean material discharges at F and the air current carries the lighter material over the Return Flue G and entering the Chamber B, which is provided with a Hopper Bottom, and passes into the Supplementary Flue I, while a draft of air from Flue K carries the lighter material up through the Fan A, while the heavier material discharges through the Automatic Valve M, thus making three separations of the material: one at F, one at M, and one through the Fan A.

The Automatic Valve E distributes the feed evenly its entire width, excluding the air from going over the material into the Flue C, consequently securing a fine draft of air its entire length. Valve H is to regulate the draft in Flue C and G. The bottom of Flue K is provided with a Valve L to regulate draft in Flue I.

The Automatic Valve M excludes air from entering the Supplementary Flue I, and is so sensitive as to discharge the smallest quantity of material.

Give capacity of your Mill, and enquire for prices and particulars.

BEYNON & MURPHY, Watertown, Wis.

— ALSO MANUFACTURERS OF THE —

BEYNON ROLLER MILL ADJUSTER

A most perfect device that may be applied to any of the Rollers now in use.

THE BEYNON ELECTRIC RELIEF AND ALARM

An effective preventive for choking Elevators, Conveyors, Spouts, etc.

"TRIUMPH" CORN SHELLER

CAPACITY
2000 BUSHELS PER DAY.
Shells wet or dry corn.
CHEAPEST AND BEST SHELLER.
PAIGE MFG. CO.,
No. 12 Fourth St., Painesville, O.



GANZ & CO.

Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.

[Mention this paper when you write to us.]

[From our own Correspondent.]
OUR BALTIMORE LETTER.

"Oriole" Reads the Millers a Lecture—He talks of the Tricks Practiced by some of Them—Condition of the Baltimore Flour Trade—Business and Personal local notes—A very Interesting Letter.

WE remarked in our last letter that we did not recognize all the purity and morality in the world, on the side of the miller, and we beg leave to reiterate that statement again with emphasis.

That there are shysters in the milling trade too, goes without saying, and to them and their practices we now briefly invite attention.

Millers, as a rule, are a very peculiar set. They imagine all the time that mankind generally has conspired to take advantage of them.

They get up in their conventions and abuse in loud language, brokers, commission merchants, customers, railroads and steamship lines alike, when in reality they themselves are largely to blame for the very evils complained of.

Millers in our opinion, deserve to be swindled where they employ unscrupulous agents at starvation rates. They must expect to be slaughtered when they flood markets with consignments that are required to be sold promptly upon arrival without limit; they merit loss of patronage where they become flippant, dilatory and careless; they receive just reward where they calmly submit to imposition from carriers on both land and water. If they would probe to the root of the matter, and remove the cause, the effect would be so different in every instance. But no, they go ahead and do the same thing over and over again, and then wonder why their lots are so hard.

And then again the average miller has an idea that he is the pink of perfection, in whom there is no guile neither shadow of wickedness.

It is true that his dusty coat often reminds us of the driven snow, but experience teaches us that he himself comes far short of being the real emblem of purity.

"All is not gold that glitters," neither are all spotless that wear white robes.

It is a sad commentary on human nature that from the cradle to the grave, and in every walk and avocation of life, there are those who invariably prefer disreputable methods in business to those of a contrary character.

Why it is so, we fail to comprehend, but that such is the case the casual observer needs only to reflect for a moment to become thoroughly convinced of the fact.

Now, take millers as a class, who lose no opportunity to vent their grievances in private and public, and mark how they too conduct business.

Here is one who without warning forwards an invoice by some circuitous route for the sake of saving five cents on the freight when he knows positively that by so doing he incurs an additional expense upon his customer in the shape of delay, decline in markets and extra drayage at destination.

Here is another whose shipments invariably fall short in weight. And then another whose grades fluctuate with the market, if prices are advancing they are sure to depreciate in quality, but if declining, then you will get what you bargained for, and in instances something a little better even. This fellow is the worst pill in the box. You never know what you are going to receive, for you can never place any dependence in him; he is here to-day and gone to-morrow, he is not wise though, for the wise miller above everything, keeps his flour strictly uniform on all occasions, and in that way retains the confidence, respect and patronage of the trade.

And then there is the man who sells one thing and delivers another, and when you complain he deliberately informs you that you have not allowed sufficiently for the bleaching of sample.

And then there are cases too where millers accept orders direct from customers which agents have made without ever giving them proper credit for the same.

This is a most outrageous proceeding, and one equal to any in the whole catalogue of crimes.

Happily for all concerned, however, this does not occur often.

The habit also of packing advertising cards in shipments destined for parties who use their own private stencils, is another specimen of the trickery indulged in by certain millers, and illustrates to what extremes they will go to carry their point; of course their object is to reach the consumer and trace their product right into his belly, but in doing so they transgress all rules of propriety, and usurp the privileges and prerogatives of the very men upon whom they are dependent, and from whom they draw their sustenance. If the miller wishes to cater for the trade of the consumer then let him cut loose from the dealer or middle man at once and do it, but not persist in doing so at the expense of his own customer.

Millers are conscious that they do wrong in this matter, else they would not so carefully hide their cards from view. Why don't they burn their brands at once on the inside of the heads or staves to insure recognition if they be not ashamed of the practice.

If there is any glory or profit to be derived from a brand the dealer proposes to reap it for himself and not another. These are a few of the vices indulged in by our immaculate millers; we could name many more, but space forbids, so when they meet together again to howl over their grievances let them remember that we have scores to settle with them too.

It is just as easy to deal fairly and squarely with your fellow men as otherwise, and it certainly pays far better in the long run too.

We don't believe in the doctrine that all's fair in love and war. Right is right and wrong is wrong, and you cannot make anything else out of it, no matter how you twist and turn it.

A miserly greed for the almighty dollar has

taken possession of most everybody and caused a demoralizing tendency to prevail generally. Such a condition warps conscience, dwarfs judgment and destroys confidence.

"It is not all of life to live,
 Nor all of death to die."

Let's get on a higher level and do business by a broader gauge, and life for us will then be sweeter, brighter and happier in every way.

The Baltimore flour market has been dull, depressed and lower again this month. Mills throughout the west and north-west have flooded us with consignments, and the result is that we have a stock here exclusive of that held by city mills of nearly 80,000 barrels.

This flour is now pressing on the market and going in a limited way at ruinously low figures.

These vast spot offerings can be bought at prices fully 25 and 35 cents under those current for the same brands at the mills.

While this continues agents will have no show whatever to sell goods to arrive. Minneapolis patents are now quoted at \$5.00, while other makes range from \$4.75 to \$4.90. Spring bakers have received some attention at figures ranging from \$3.40 to \$3.65.

Winter patents, straights and clears on the spot and to arrive range respectively as follows: \$4.50@4.90; \$4.00@4.35; \$3.75@4.00.

City mills have had a dull month of it too, but have managed to book orders for considerable Rio extra notwithstanding, at figures all the way from \$4.37½ to \$4.60. Dealers here are looking for an early decline in list prices, and when it comes we are in hopes that trade will revive again.

While stocks are heavy in first hands, they are comparatively light otherwise, and with any improvement in wheat, jobbers are likely to appear on the scenes and buy ravenously.

There seems to be no desire to see values any lower. All that is wanted is a demand to make things lively. The South will not draw supplies from here as heavily as formerly for the reason that the cotton and other crops are failures, and our merchants under the circumstances do not care to increase credits in that section until another season rolls a round.

The enormous through shipments of flour via Baltimore continue unabated, and the prospects are that the movement will be even greater after the holidays.

The wheat market here has experienced considerable activity during the month, but closes tame to-day at about the figures quoted in our last letter. While cash wheat has ruled relatively firm the options have lost a little ground, but only a fractional difference.

Prices here are about 19 cents a bushel lower at this writing than they were for the same period a year ago.

Exporters are doing something all the time in the way of parcel lots, principally, but in the aggregate they show up splendidly.

There is very little contract or milling wheat in our stock, the bulk of it being the steamer grade and "No. 3."

Millers experience great difficulty in obtaining selections suitable for their requirements, and are consequently using a great deal of No. 1 hard Duluth spring and Kansas winter.

Receipts are small, and show up poorly both as to quality and condition. The falling off of the movement in the Northwest has given more confidence to some of our bulls who now look for an early boom in values. Speculators are pretty evenly divided on the situation, but all admit that prices look exceedingly low.

Baltimore has contracted for more corn on this crop than all her rivals combined. Her exports of the cereal will be far ahead of every previous year.

Over 100 steamships have already been chartered and more than 10,000,000 bushels have been sold to go abroad. Germany has been the principal buyer. The shipments will cover a period from now until next June.

Owing to a scarcity of cars and tonnage the demand has subsided for the present, but we have already enough to do to keep us busy for months to come.

Stock of wheat in elevators, 1,171,817 bushels; stock of corn in elevators, 732,632 bushels. We quote the range of the flour market as follows:

Western Winter Wheat	Super.....	\$2.25	@\$2.75
"	"	2.75	@ 3.50
"	"	3.75	@ 4.35
"	Family.....	4.00	@ 4.90
Winter Wheat Patent	"	4.60	@ 5.00
Spring	"	4.00	@ 4.50
"	Straight.....	3.40	@ 3.65
"	Bakers.....	5.60	—
Baltimore Best Patent	"	5.45	—
"	Choice.....	5.35	—
"	High Grade Family.....	5.10	—
"	Choice " Extra.....	2.25	@ 2.75
Maryland, Virginia and Penna.	Super.....	2.75	@ 3.50
"	"	3.75	@ 4.35
"	Family.....	2.20	@ 2.25
City Mills Super	"	4.37	@ 4.50
(Rio Brands Extra)	"		

ITEMS OF INTEREST TO THE TRADE.

D. L. Cockley, prest. of The Shelby Mill Co., of Shelby, Ohio, was in Baltimore this week calling upon his old customers, in company with his local agent. Mr. Cockley, left for New York on Thursday night.

Henry C. Corner, 2nd V. Prest. of the C. A. Gambrill Mfg Co., met with a painful accident a few days ago while leaving a B. & O. train at Camden Station. The brass knob connecting the bell rope on the cars parted and struck his eye-glasses, demolishing them completely and filling his eye with broken glass. While Mr. Corner is still suffering a great deal of pain his doctor pronounces the wound as nothing dangerous.

P. H. Hill, of Washington, D. C., who has been quite ill with typhoid fever, is now out and able to attend to business again.

E. Thomas Rinehart, of Rinehart Childs & Co., has returned from Asheville, N. C., much benefited in health.

Conrad Ruhl, Sr., after an illness of thirteen weeks with poison oak poisoning, is now at the helm of affairs again with his boys, Henry and Conrad, Jr.

Wm. M. Powell & Co., are justly proud of their magnificent new six-story warehouse on South St. It is the finest flour establishment in Baltimore.

"The Baltimore Journal of Commerce" will

issue a handsome "Annual" sometime in January.

Those who are prominently spoken of as available candidates for the presidency of the Corn and Flour Exchange for the ensuing year are Louis Mueller the present incumbent, Henry A. Parr, Hiram G. Dudley, Blanchard Randall and T. B. Hull.

Baltimore is soon to have rapid transit both surface and underground.

James D. Mason, the leading cracker man of Baltimore, is in New York this week on business.

Baltimore, Dec. 14, 1889.

MILWAUKEE REVIEW.

SINCE our last communication, Nov. 15th, there has been much talk about a certain Prof. Ciprico, the professed agent of a European company, and his operations in getting options on the mill and elevator property of this city.

It was stated as a fact that five of the seven mills changed hands, and that the money consideration would be forth-coming. The agent declared his work done, and returned to his home in Minneapolis. A good deal of doubt was entertained by some of our people, and some comments made on the trustworthiness of his offers and operations.

This professed agent assumed an offended air at the way some of the papers talked as they reflected the opinions of some at least of the owners of this kind of property.

Whether the criticism was just or not, the fact remains that the mills are running under the old management, and probably will continue so.

No other changes have taken place during the month, and none will be made till after the holiday round-up.

The output has fallen off somewhat, owing to slack domestic markets. At this time of the year it is to be expected that the demand will be slack, as all dealers as well as millers reduce their holdings for the annual stock taking.

Some however, report a very good export demand, and are working it for all there is in it.

Prices of flour and feed are about as last reported. Flour in order to move freely would probably have to make slight concessions. Bran is in fair demand at about \$8.00 to \$8.25 per ton sacked. Fine middlings \$9.75 to \$10.25 per ton sacked.

Sample wheat has been dull and easier, and prices on options have given way 2 to 3c. @ bush.

Receipts of wheat continue large at the primaries, and yet the visible supply does not increase very rapidly. It is estimated the increase on Monday will show about 500,000 to 750,000 bushels. There is undoubtedly enough to furnish all with bread that is good and cheap.

On the whole millers have had a fair fall run, and dealers have not lost anything on this crop.

Inasmuch then as the new year promises greater activity and improved conditions, we will wish you a Merry Christmas.

Now resolve that you will put more energy and enterprise into the business of the coming year. Do not forget your hard-worked wife and anxious children on the near approaching Holidays. Take them something good and nice. Don't plead poverty. Don't.

The Milwaukee millers met on 'Change at noon to-day (Dec. 17) and passed a resolution requesting the Millers' National Association to immediately take steps to secure the removal of the duty on jute.

NORTHERN INDIANA MILLERS' ASSOCIATION.

THIS Association met at the Exchange, Dec. 3, President F. E. C. Hawks, of Goshen, in the chair, and J. B. Monning of Fort Wayne, Secretary. Mayor Harding made a speech of welcome and extended the hospitalities of the city to the millers and their friends. A vote of thanks was given the Mayor for his courtesy.

Pres't Hawks made an interesting opening address.

Mr. Frank Barry, Secretary of The

Millers' National Association, upon invitation, made a short address, from which we have only space to make the following brief extract:

"To give an idea of recent growth I will say that over 30 per cent. of the members which we have to-day, have joined in the past two years. I should not make this claim if it could not be substantiated. So much for the work of our enemies."

After his remarks were concluded, Mr. J. M. Servoss introduced the following resolution, which was unanimously adopted:

WHEREAS, The benefits derived by the millers throughout the country through the efforts and services of the Millers' National Association and its officers being appreciated by this Association, it is therefore

Resolved, That the Millers' Association of Northern Indiana does endorse the Millers' National Association, and recommends the members present to become members of the national body.

Mr. J. M. Servoss read an able paper on "Modern Milling and Machinery," which came to hand so late that we are unable to publish it this month.

Other interesting papers were read and addresses made, after which the meeting adjourned to meet again in February 1890.

The meeting was well attended and harmonious in every respect.

E. B. WILBER was recently on trial on a charge of grand larceny before the Superior Court in Buffalo, the indictments charging him with appropriating 1000 bus. wheat and 1000 bus. oats, the property of Sandrock, Dodge and others. The defendant was acquitted by the jury. This is one of the grain cases that has occasioned much talk during the past few weeks.

Judge Beckwith, in his charge said that the conviction must be for grand larceny, if for anything. He explained the uses of bills of lading and the reasons why they were negotiable, saying that in the eyes of the law the person who held a bill of lading was the owner of the property described in it. Mr. Sandrock has become, in this case, the owner of the wheat by holding the bill of lading for it. Therefore, the question was, was he feloniously deprived, as the indictment said, of this property? The evidence showed that an arrangement had grown up between Mr. Wilber and the agent of the Grand Trunk, by which Mr. Wilber had been able to get grain without producing bills of lading. The evidence tended to show that Mr. Sandrock was deprived of his property. It remains to be decided whether he was feloniously deprived of it.

MILLING AND MECHANICAL NOTES.

OFTEN we hear of fires in mills; the newspapers will say there seems to be no possible cause for the fire, and as a rule set it down as incendiary, but some suspected culprit gets the benefit of suspicion for setting the fire and may be is arrested, proves an alibi and goes free. The shaft was perhaps going through some out-of-the-way place, and when the mill shut down, the elements of a fire were there, which in due time waked up and the mill went up in smoke, only leaving a pile of blackened timbers. The box in the out-of-the-way place was not watched out for.

THERE is no good reason why our large manufacturing establishments should not introduce triple expansion engines instead of compound when they discover, as some of them have already done, that a single cylinder engine is not the more economical form for large powers. There is no practical difficulty in getting stationary boilers to carry pressure at which an expansion ratio of twelve to sixteen times, may be worked to advantage instead of the one-fourth or one-fifth cut-off which gives the best result in a single cylinder.

THE LARGEST ROLLS EVER MADE. The Phoenix Roll Works Pittsburg, Pa., have just turned out a pair of the largest rolls ever manufactured. They weigh 92,000 pounds, are 142 inches in length and measure 48 inches in diameter. The moulds in which the rolls were cast had to be specially made, and were 160 inches in length and 60 inches in width. The firm possesses facilities for such heavy work, and, by means of the powerful 80-ton cranes, were enabled to handle the huge mass at will. The rolls were made to the order of the Cambria Iron Works.

AN OPEN LETTER FROM THE J. B. ALL-FREE CO.

A CASE before the courts, not yet completely adjudicated, appears to us to be an improper subject for journalistic controversy. We have, therefore, refrained from saying anything publicly as to the pretended claims of the Consolidated Roller Mill Company, but as that company has made unwarranted use of the situation, misrepresenting the true state of the case and trying to intimidate every miller who is not using their roller mills and as our customers have repeatedly solicited our views in relation to these claims, we now feel at liberty to defend ourselves and to express our views, which shall be done as briefly as possible.

We have been silent, also, because we have been unwilling to think that a concern composed of gentlemen, who should hold business integrity too sacred to be tampered with, could willingly stoop to the deceitful and "bulldozing" methods which their company appears to have adopted.

As the patent cases of the Consolidated Roller Mill Company have been pretty fully ventilated in the milling journals, we shall confine ourselves to the consideration of the facts and situation pertaining to the "Keystone Roller Mill," manufactured by our company under patents of which we have entire control.

Our attention has been called to circulars and letters purporting to come from the Consolidated Roller Mill Company, representing that their patent has been sustained by the supreme court, whereas the only case in which either of their patents have been carried to the supreme court was disposed of adversely to them, the patent being held invalid below, and that action being confirmed by the dismissal of the appeal taken in behalf of the complainant.

Our attention has also been called to circulars and letters, purporting to come from the same source, representing that the suits of the Consolidated Roller Mill Company had been uniformly decided in their favor, whereas the fact is that nearly every patent on which they have brought suit, and upon which their case has been heard, has been determined invalid; the only instance in which either of their patents has been sustained by any court being one in Detroit; that the same patent has been held invalid in another court of same jurisdiction, and this finding has been acquiesced in upon appeal to the supreme court and a final decree entered adverse to the patent; and that in a later case before the court in Detroit this patent has been held limited to specific constructions, which are not contained in the "Keystone" roller mill.

The fact is that no suit has been brought against our company, and not a word of evidence ever taken charging the Keystone roller mill with infringing of any patent owned by the Consolidated Roller Mill Company or any other company.

This fully shows their malicious disregard for truth and honest methods. It is evident, moreover, that their simply saying the Keystone roller mill infringes their patents, does not make it so, and does not constitute an infringement by any means. Infringements must be proven before a court of jurisdiction, and the court must render a decision to the effect that an infringement exists before that point is settled. Yet, without such decision to warrant it, they make false statements and couple with them a demand for money.

Their reckless claims seem to be made with the hope of their being able to dupe a sufficient number of honest millers and through their fears of a lawsuit, obtain a sufficient sum, if not to fill their coffers, to at least offset the expenses of their malicious onslaught against innocent manufacturers.

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We have observed that for the most part the wording of their circulars has been carefully and cunningly devised. For instance, they say that "Nothing now remains for users of infringing roller mills to do but to settle with us for their past use, and obtain our license for future use, provided they desire to continue to use them," thus leaving with the miller a strong impression that his roll does infringe; but in case they were brought to account for a such claim, they would quietly crawl out through a neatly devised hole that they had prepared for themselves, by simply saying: "We did not say that your roller mill infringed." Occasionally, however, doubtless due to their crafty desire for monopoly, they break through their gauzy pretenses, and make broad assertions, such as are contained in their circulars and letters referred to, which we presume is due to the fact "the shoe pinches," and "the loudest wail comes from the greatest sufferer."

The construction of the Keystone roller mill is different from that of any other. It does not come within the limitation of any roller mill patent taken out prior to the Allfree patents; and even if the Gray patents were to be treated as valid, it would take a wild flight of imagination and a gross disregard of the limitations of that patent to make it bear even a semblance to the Keystone roller mill, much less reach it. Therefore, the validity or the invalidity of the Gray patent is a matter of utter indifference to us.

The purpose of these attacks, publicly and privately made against the Keystone roller mill, are apparent. We think the Consolidated company will not find the upright and intelligent millers of the nineteenth century so utterly devoid of good sense and keen business perception as to permit themselves to be deceived by any such tactics as we have exposed, but on the contrary, they will scornfully reject their unjust demands and visit upon the offenders the retributive justice their dishonest methods deserve. Where such unscrupulous falsehoods will ultimately end we leave for honest men and time to decide. Yours respectfully,

THE J. B. ALLFREE CO.

P. S.—Just as we were in the act of mailing this letter to the press, our attention was called to the Indianapolis News bearing date November 9, 1889, publishing the following decision:

DENIES THE INJUNCTION.

JUDGE GRESHAM DECIDES IN FAVOR OF THE RICHMOND CITY MILL WORKS.

Judge Gresham is winding up the legal business before him here to-day, and this evening will leave for Milwaukee, where he will hold court next week. He rendered an opinion of some general interest this morning in the suit of the Consolidated Roller Mill Company, of Illinois, against the Richmond City Mill Works of this state. The complainants brought suit on four patents, upon which, it was alleged, the defendants were infringing. In his opinion Judge Gresham states that the Richmond Company operates one of the most extensive establishments in the country, has large capital involved in the manufacture of roller mills, and that to grant an injunction against it, as asked by the complainants, might prove ruinous

to its business. He also says that the Richmond Company has evidently carried on its business in good faith, and that there is no evidence to show that it has knowingly infringed upon the patents of the Illinois corporation. The motion for a provisional injunction is therefore denied.

This needs no comment. THE J. B. ALLFREE CO.

At a large meeting of millers and farmers held at Brampton, Canada, last week a resolution to insist on an increase of the duty on flour to \$1 per barrel was adopted. The duty on flour is 50 cents per barrel. It was stated that so far this year over 300,000 barrels of American flour had been imported into Canada, displacing over 1,500,000 bushels of Canadian farmer's wheat.

WIDE AWAKE A Good Year 1890

The brightest of the children's magazines.—Springfield Republican, A Merry Year

FIVE GREAT SERIALS.

THAT BOY GID. By William O. Stoddard. Young and old will follow Gideon's adventures and his sister's on their father's acres with laughter and breathless interest.

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TALES OF OLD ACADIE. Twelve powerful true stories by Grace Dean McLeod, a Canadian author.

THE WILL AND THE WAY STORIES. By Jesse Benton Fremont. About men and women who did great things in the face of seeming impossibilities.

THE PUK-WUDJIES. By L. J. Bridgman. The funny Indian Fairy Folk.

BUSINESS OPENINGS FOR GIRLS AND YOUNG WOMEN. A dozen really helpful papers by Sallie Joy White.

Twelve more DAISY-PATTY LETTERS. By Mrs. Ex. Governor Claflin.

TWELVE SCHOOL & PLAY-GROUND TALES. The first will be "LAMBKIN; Was He a Hero or a Prig?" by Howard Pyle, the artist.

Postcard Votes and Cash Prizes.

SHORT STORIES sifted from thousands:

Santa Claus on a Vegetable Cart. Charlotte M. Vail. Brijane. William Preston Otis. How Tom Jumped a Mine. Mrs. H. F. Stickney. The Run of Snow-shoe Thompson. Lieut. F. P. Fremont. Polly at the Book-kitchen. Della W. Lyman. Trailing Arbutus. Hezekiah Butterworth. Golden Margaret. James C. Purdy. Peggy's Ballet. Kate Upson Clark. How Simeon and Sancho Panza Helped the Revolution. Mrs. Risley Seward. The Difficulties of a Darling. L. B. Waldorf. "One Good Turn." Harriet Prescott Spofford.

ILLUSTRATED ARTICLES, novelties:

Dolls of Noted Women. Miss Risley Seward. How to Build a Military Snow Fort. An Old West Pointer. How the Cosacks Play Polo. Madame de Meisner. All Around a Frontier Fort. Lieut. F. P. Fremont. Home of Ramona. Charles F. Lummis. A Rabbit Round Up. Joaquin Mill. Japanese Fighting Kites. J. B. Bernadon. U. S. N. Indian Base-Ball Players. F. L. Sloane of "The Hampton Indian Nine." A Party in a Chinese Palace. E. R. Seidmore.

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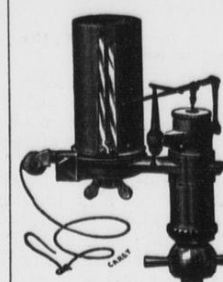
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Edw. P. Allis & Co., Milwaukee, Wis., builders of complete Flour Mills, manufacturers of Flour Mill Machinery, and dealers in Supplies of every description. [Mr. 89.]

O. C. Ritter, Sta. A., Springfield, Mo., Patentee and Designer, Ritter's One Reduction Milling System. Full Roller Plants for small mills. [Aug. 10]

John C. Higgins & Son, 185 West Kinzie Street, Chicago, Ills., mfrs. of and dressers of Mill Picks. [Mr. 89.]

Robert Poole & Son Co., Baltimore, Md., manufacturers of Steam Engines, Water Wheels, Flour, Corn, Paper, Saw and Cotton Mill Machinery.

B. H. & J. Sanford, Phoenix Iron Works, Sheboygan, Falls, Wis., manufacturers of the "IMPROVED WALSH DOUBLE TURBINE WATER WHEEL." [Mr. 89.]

John C. Kilner, York Foundry and Engine Works, York, Neb. Mill and Elevator machinery of all kinds, Engines, Boilers, Pulleys, Shafting, etc. [Mr. 89.]

The Gutta Percha and Rubber Mfg. Co., 159-161 Lake St., Chicago, Ill., Belting and Rubber Goods. [Mr. 89.]

Richmond Mfg. Co., Lockport, N. Y., manufacturers of Grain Cleaning Machinery, Bran Dusters, etc. [89. Mr.]

N. Y. Belting and Packing Co., N. Y. Leather Belting Co., W. D. Allen & Co., Agents, 151 Lake Street, Chicago. [Apr. 89.]

W. G. Avery Mfg. Co., 10 Vincent St., Cleveland, O., Specialties: Avery Lever Belt Pumps, Avery Seamless Elevator Buckets, Belting, Elevator Bolts, &c. [May '89.]

The H. J. Deal Specialty Co., Bucyrus, Ohio. Headquarters for Flour and Grain Testing Appliances, and Specialties for the Milling, Flour and Grain trades. [May 89]

A. B. Bowman, 823 Second St., St. Louis, Mo., manufacturers of Wheat Heaters.

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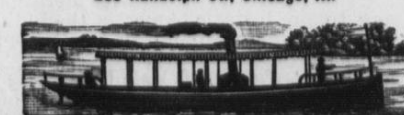


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Since the first issue Mrs. Dodge has remained as editor. Early in its history other young people's magazines, "Our Young Folks," "The Little Corporal," "Riverside," etc., were consolidated with it, and its history has been one of growth from the first. Tennyson, Bryant, Longfellow, Whittier, Miss Alcott, Mrs. Burnett, Charles Dudley Warner, W. D. Howells, and almost every well-known writer of our time have contributed to its pages. There is only one way in which its conductors can make it better, and that is by making more of it, and so they announce that with the beginning of the seventeenth volume (November, 1889,) *St. Nicholas* will be enlarged by the addition of eight, and sometimes sixteen, extra pages in each number. This enlargement is absolutely required to make room for the rich store of new material which has been secured for the benefit of its readers. The use of new and clearer type will be begun in the November number.

During the coming year there are to be four important serial stories by four well-known American authors. Athletics and outdoor sports will be a special feature (contributed by Walter Camp, of Yale, and others,) and there will be stories of character and adventure, sketches of information and travel, outdoor papers, articles of special literary interest, suggestive talks on natural history, other scientific subjects and the march of events. Both the December and January numbers are to be holiday issues.

The price will be the same as heretofore, \$3.00 a year, 25 cents a number, and all dealers and the publishers (The Century Co., New York) take subscriptions. New subscribers should begin with November.



JOSEPH JEFFERSON.

"The Century Magazine" in 1890—Joseph Jefferson's Autobiography—Novels by Frank R. Stockton, Amelia E. Barr, and others—A Capital Programme.

DURING the year 1890 *The Century Magazine* (whose recent successes have included the famous "War Papers," the Lincoln History and George Kennan's series on "Siberia and the Exile System") will publish the long looked-for autobiography of Joseph Jefferson, whose "Rip Van Winkle" has made his name a household word. No more interesting record of a life upon the stage could be laid before the public. Mr. Jefferson is the fourth in a generation of actors, and with his children and grandchildren, there are six generations of actors among the Jeffersons. His story of the early days of the American stage, when as a boy, traveling in his father's company, they would settle down for a season in a Western town playing in their own extemporized theater,—the particulars of the creation of his famous "Rip van Winkle," how he acted "Ticket-of-Leave Man" before an audience of that class in Australia, etc.,—all this, enriched with illustrations and portraits of contemporary actors and actresses, and with anecdotes, will form one of the most delightful serials *The Century* ever printed.

Amelia E. Barr, Frank R. Stockton, Mark Twain, H. H. Boyesen, and many other well-known writers will furnish the fiction for the new volume, which is to be unusually strong, including several novels, illustrated novellettes, and short stories. "The Women of the French Salons" are to be described in a brilliant series of illustrated papers. The important discoveries made with the great Lick Telescope at San Francisco (the largest telescope in the world) and the latest explorations relating to pre-historic America (including the famous Serpentine Mound, of Ohio) are to be chronicled in *The Century*.

Prof. Geo. P. Fisher, of Yale University is to write a series on "The Nature and Method

of Revelation," which will attract every Bible student. Bishop Potter of New York will be one of several prominent writers who are to contribute a series of "Present-day papers" on living topics, and there will be art papers, timely articles, etc., and the choicest pictures that the greatest artists and engravers can produce.

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Marinette, Green Bay,	3:10 P. M.	3:55 P. M.
Depere,		
Green Bay, Depere, Apple-	2:00 A. M.	
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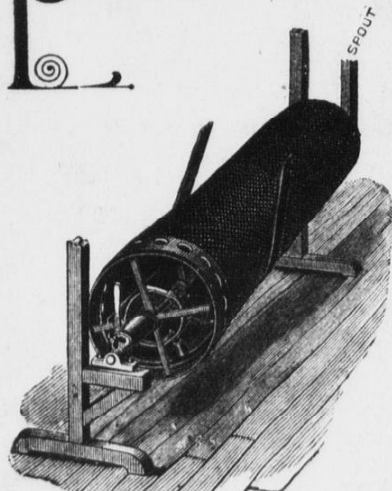
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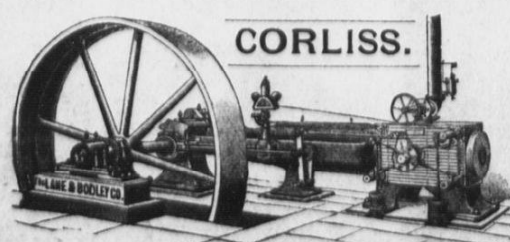
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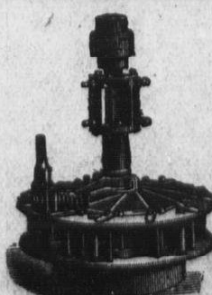
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